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MARCH 1978

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Science Fiction

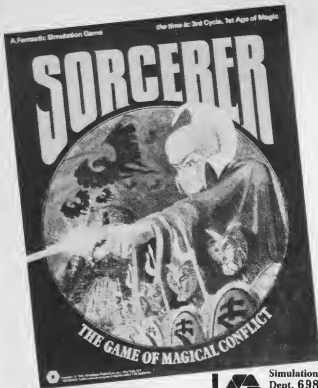
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C.J. Cherryh's **THE FADED SUN: KESRITH**

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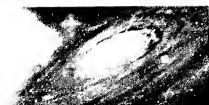
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Moonless Night

Robert Chilson

Theirs was but a brief
encounter—what else
could it be?

LALOMINAT ENTERED his life in tears. Juni stood at the top of *Firefly's* ramp while she made her farewells to the bears. The tall, burly, black-furred beings crowded around her, rumbling in light baritones their feelings and farewells. Lalominat was tiny and fragile in a pale yellow jump suit, out of place in the orange and blue world.

After a final pressing of her head against one of the "bears," who blinked his three-in-line red eyes at her, she turned and stumbled up the ramp. Juni faded back into the lock. At the entry Lalominat turned and raised slim, silvery arms over her head. The bears responded with a raising of arms and a final mass moan.

Firefly judged this to be a propitious time to end the farewell, or merely took note that the passenger was aboard. It sucked in the ramp and the lock's shutters contracted. Lalominat continued to face the bears, then lowered her arms and made a slight mewing sound. After a moment she turned and approached Juni firmly.

"Ship Man Junius Van Every? I am your contract servant, Lalominat Dancer."

Firefly recognized that as being in a local trade language. Adapting to the presence of a passenger, in translating it pitched its voice higher, adding overtones and undertones in a crude imitation of Lalominat's wavering violins, that Juni not mistake the translation for the robot's own words.

"Pleased to meet you, Lalominat Dancer. You may call me Juni. But you need not consider yourself

bound to me. My culture frowns on binding contracts."

She could not frown. She had eyebrows but they did not move toward each other by a hair's breadth. The inch-high green plumes, like shakoes at their inner ends, flattened against her forehead.

"But by the last charge—" *Firefly* substituted the code name "Bruin" they had assigned to her former employer, whose name Juni could not pronounce—"it was laid on you to accept responsibility for me."

Juni could listen to those blended violins by the hour, enchanted; her voice was wind over taut strings, silvery liquid over crystal. But his eyes were beginning to water and his nose to run.

"I accept the responsibility, but you are free if you wish to go."

Did that blink and downward movement of her eyebrows indicate hurt?

"I am only a dancer. If I have no patron. I cannot live."

The pain in Juni's eyes and nose increased, reminding him that the orange-and-blue world of the bears had proteins incompatible with human proteins. He was getting an allergic reaction to the dust and organic debris Lalominat had brought in with her.

And of course her own proteins were incompatible with his, else she could not have lived here.

"If you will permit me to show you to your suite, we may continue this conversation in comfort. But don't worry; you won't be abandoned."

Lalominat's eyes were streaming and she was wiping her mouth by the time they reached the suite he

had assigned to her. Her silvery skin was showing a jaundiced flush and she kept rubbing her hands over her arms in a way that suggested itch. The ship was saturated with terrestrial proteins.

"Put your clothes in the cleaner—*Firefly* will tell you where it is—and wash yourself, and you will feel better."

She made a gesture of assent and ducked hastily into the suite. Juni had given it careful attention. All organic articles had been removed, down to the decorative bug shells, and by hand he had flamed the rooms down. He had then adjusted the filters to incinerate all dust or other airborne organic debris, both entering and leaving the suite. For hours now that filtering had gone on; it should be safe.

Musing, Juni went toward the control room. By the time he got there, *Firefly* was thirty miles up. It was a fast, light transport, five thousand tons' cargo capacity, half a dozen suites and a dozen second-class rooms, designed for short express runs. Normally *Firefly* carried a crew of three, plus stewards. It was now a month's run from the human sphere and Junius Van Every was sole crewman—"midshipmite and bosun tight and crew of the captain's gig." And cook, *Firefly's* robogalley being on the fritz again.

"She's even more beautiful than her visual records."

"A danger to you as long as she is aboard."

Juni dismissed the possibility of death by massive allergic shock casually. "Beautiful! She makes human girls look thick and

clumsy."

Lalominat even had a human figure, slender but attractive, complete with two small but delectable mammaries—a real rarity. Her face, too, was superficially human. Her chin was rather deficient and her lips thinner than he liked, but her blunt little nose—another rarity—was attractive. Her eyes were human but for their oval pupils, blue-green and very direct. The nose had only a single nostril, her eyelids met in the centers of her eyes, her hairline was odd, and her hair pale green with yellow highlights. But none of this put him off, would not have even had he not been used to non-humans. Or far from home and his last human contact.

"It would have been better if you had found some way to avoid the necessity of taking her on," came *Firefly's* toneless voice.

A robot with a very complex program must have some standard to which it can refer instantly when some unexpected event occurs. A living being refers to its survival instinct. *Firefly's* prime directive was to preserve Juni's life, at whatever hazard.

"If I hadn't accepted the necessity we'd have been stuck with an unsaleable cargo and no consignee."

"Bruin" had seen a possible market for a shipment of house-sized water purifiers, but before Juni could deliver it, he knew his end had come. As he sat dying, he had spoken his last will. Lalominat was to be placed in the charge of Juni. If he accepted the charge, Juni's consignment was to be accepted by "Bruin's" successors. If not, not.

"*Firefly*? You said that I could speak to the Honorable Juni?"

"Juni speaking. *Firefly*, visual contact, please."

"Oh!" The plumes at the inner ends of her eyebrows fluffed enchantingly in startlement when the waterfall on the wall blinked into a holo of Juni in the control room. "I have refreshed myself, Honorable Juni. I await your pleasure. But if you desire low-gravity dances, I have not been in low gravity for years and am dry or desiccated—rusty," *Firefly* explained in its own voice.

"I would be enchanted to watch you dance—or to walk. It's an inexpressible pleasure merely to hear you speak. But as I said, you may consider yourself free. You need not dance if you do not wish to. Consider yourself a passenger."

Again she didn't frown. "But . . . you have said that I will not be abandoned? A passenger. . . I have no money."

"There will be no charge. 'Bruin's' successors arranged all that."

"And. . . if I am a passenger, what is my destination?"

Juni smiled and made a vague, suave gesture in the air. "Why, I suppose you will go wherever the ship does. I don't see how it could be otherwise."

For the first time she smiled, her silvery lips stretching a little, her eyebrows rising and their green plumes fluffing.

"I have little choice about that, true." The smile faded. "Honorable Juni. . . ." He was hearing her voice as well as *Firefly's* translation and now it was very small.

"Honorable 'Bruin' did not mean for me to be a worthless charge upon you forever. If my dancing is of no value to you, he expected you to sell my contract to someone who can profit by my skills. How can I live among those who do not value me?"

"I do not mean to say that your dancing is of no value to me. Merely that it is not required of you. Your passage is paid. I am not a great admirer of the dance, but I know nothing of it. Perhaps I might learn, if some knowledgeable person took pity on my ignorance."

This time she smiled wholeheartedly and made a descending slide on her violins, one of her most enchanting sights and sounds.

"If my poor powers permit, it may be then that I can relieve you of some of your to-be-pitied ignorance, Honorable Juni."

"A moment, if you will permit, Honorable Lalominat. I see that *Firefly* is now on course for 'County Fair'—his code for a local trading planet—"so I am not needed here. I will repair to my humble Shipman's quarters that I may watch your delectable dance in comfort."

"Oh, but you must not salute me Honorable—"

"Passengers are always treated with utmost courtesy."

His quarters, comprising all the rooms of the rated crewmen, were just off the control room. His "suite" was almost as roomy as Lalominat's. Juni nodded to her in the big visiplate there and said, "You may begin when you are ready, Honorable Dancer."

Visibly she decided not to argue

the question of respect. She stepped back from the visiplat, nude, unselfconscious in her silvery skin. She had no hair but on her head, no navel—at least not in her belly—and her rib pattern and hip bones were all wrong.

That was the first reaction. The second was that she was breathtakingly lovely. Then she began to dance.

. . . Dance. . . motion shattered into rhythm. . . teeter of butterflies through air, flash of fish, leap of flame, and leaves in dying fall. Dance is these and Lalominat was these and water dancing under the wind and the dancing play of sunbeams between cloud shadows.

She danced because, like butterflies, she could not move less gracefully, and because, like fish, she was supported by her life's medium, this her art her life With eyes closed, she danced . . . a flame leaping, leaves dying, waves chopping the light into rhythmic fragments, her dance was all these. . . she was all these.

Dance. . . rhythm made manifest as motion.

Till he had seen Lalominat dance, he had not seen Lalominat. . . .

* * *

Juni rubbed himself with silicone oil from head to foot, pulled a tight cap over his hair, and dressed himself in clean synthetic clothing, finishing by pulling gloves over his hands. Entering Lalominat's suite, he nodded to her at a wary distance, careful to breath through his nose filters. She had directed *Fire-*

fly's handlers to put the food synthesizer in a convenient place. The food he had shipped for her at "Bruin's" world was running low and he had had to buy another synthesizer at "County Fair." There he had also looked up her home world.

"You're a long way from home," he told her. "A week's drive for *Firefly*, and we're pretty fast. Must have been longer by the slow ships in this area."

"My contract was sold twice before I was given to 'Bruin.' Three trips in ships, but that was long ago and I do not remember how long the trips were."

The synthesizer had previously been adjusted for flavors according to a commercial table of equivalents for beings of Lalominat's range of proteins. It produced a thick, pale liquid. Lalominat came delightfully close to taste, and her brows dipped downward. "It has no flavor."

Juni consulted his table and readjusted the synthesizer. "How long were you with 'Bruin'?"

"Many years, half my life. I was but a girl when my contract was first bought and I said goodbye to my family—collective—association."

"Were you sad to leave home?"

Lalominat looked her surprise at him. "Yes. . . to leave my friends. But how can one grow—make progress—if one does not leave home—the nest?" Juni was not surprised by this attitude; he knew too many cultures of too many species. He was silent in shock not at her attitude, but at his own. He should not have expected her to react like a human from his own culture. He was anthropomorphizing her.

"With 'Bruin' I was very happy, though of course I missed my own language. He was like. . . he was a protector. His shadow lifted fear from all small things. He delighted in beauty and the beautiful, especially in living things. His collection of dancing wings was large and marvelous, their wings of all soft colors. Their flights were more wonderful than my dance. Mon-Sil-Mon (her name for her home world) has nothing so light—so airy—" She added words in her own singing language that *Firefly* could not translate. The ship said, "Neither your language nor this trade language has the words to express this concept."

"Oh, was that important?" She caught the change in *Firefly's* voice.

"*Firefly* commented on your use of your own language."

"Why does Honorable *Firefly* speak to you in so harsh a tone? To me she speaks in a pleasing voice, one very similar to my own."

Juni gave her a forced grin. "I think I can illustrate it best by telling of the explorer who took along with him no women but old or ugly ones. When they began to seem attractive to him, he knew it was time to return to his own race."

Lalominat laughed and clapped her hands against her thighs, her face animated. "But that is so human! When our men are on long journeys on Mon-Sil-Mon, they begin to think of women all the time. But *Firefly* is not a woman; I do not understand. . . ."

"Simple. If I should begin to think of *Firefly* as human rather than as a machine, especially as a

woman, I might well go mad. Hence, that crude mechanical-sounding voice, though *Firefly* can speak with an utterly human voice."

Lalominat pondered that, indicated pleasure at a flavor. "This means that you can breed away from your home? But it must be very lonely for you, then!"

"Hence my precaution with *Firefly's* voice. But of course I have a ship and can go home any time."

"Oh, you can own your own ship? I had thought you are a hireling, coming and going on command."

"No. I go wherever the trade leads me."

Her expressive face registered awe, oval pupils flaring, eyebrow plumes fluffing, the enameled ridge that served her for teeth bared.

"Oh, such freedom! To own every star in the sky! So great a dance."

She touched the back of his wrist.

* * *

A day later Junius Van Every sat before the control board. To his right in the visiplat flared a sun, the center of its ardent circle blanked out, its arms painted in light against the far hard stars of space's winter night. *Firefly* was picking its way in toward another of the low-technology planets with which Juni usually dealt.

He rubbed the back of his wrist. The silicone oil had helped protect him from the airborne organic debris, but against an actual touch it had not been very effective. There was still a rash there. Lalominat's

fingertips must still be painfully swollen.

"So great a dance."

Strange that she thought so little of her own exile—half her life. And she was so closely integrated with her native ecology, she could not breed away from Mon-Sil-Mon. Strange that she thought so romantically of his freedom. He had not seen it as glorious, but Juni came from a wry, pragmatic culture.

No. He was anthropomorphizing. Why should it be strange?

"Lalominat Dancer has just asked if you have been watching her at her exercises."

Jerked out of his reverie, Juni said, "Tell her no."

"I have already told her that you have been watching her from time to time, and that she was exercising during some of those times. I was not instructed to conceal that from her."

Fascinated for hours at a time, Juni had watched her move around in her suite, her silvery skin bare, light as a shaft of light, not so much walking as drifting like a vagrant breeze. She was as beautiful and as right as a natural phenomenon. . . a glowing dawn. . . a cloud over a mountain. . . a jet of glowing gas soft against the glitterfrost of space.

He cleared his throat. "How did she react?"

"She was pleased."

Juni took a deep breath of relief. *Firefly* chimed and announced, "Planet signals us."

As he talked them in, Juni's mind stayed with Lalominat. He'd been anthropomorphizing again. Modesty meant little between species, and

privacy need not mean anything in her culture in any case. His own homeworld conditioning was extreme even for humans.

"Honorable *Firefly*, is the Ship Man too busy to speak with me now?"

"Not at all, Lalom." *Firefly* came in low over an orange and amber plain.

"This is not much like 'Bruin's' world. Nor even like 'County Fair'."

"It's a frigid planet with ammonia-methane atmosphere; those are clouds below us. We won't be here long."

"I am glad. Yet. . . it is beautiful."

Hydrogen planets had always looked alike to Juni, but now as Lalominat's wavering violin voice vibratoed delight, awe, wonder, and pure joy, he found himself responding as well. Under the cloud canopy was a scarlet and crimson and maroon and murrey and terra cotta land that produced trills and tremolos from her throat. Ascending slides greeted the closer view of the windsculpted land and its ground-hugging cities.

Firefly cut her out of the circuit as Juni began to transact business with the locals and Lalominat soon grew tired of listening. She was asleep when they lifted off, but she had instructed *Firefly* to call her. She appeared in Juni's visiplat as the frigid planet shrank below them, tousled and doe-eyed to watch the spurning behind of a world. Stars opened before them.

"What is your world like, Juni?"

"It was green when there were few of us. We made it gray, but

now it is being given back to the plants and is turning green again. At the end of summer the plants turn red, yellow, and many associated shades, before going brown and falling."

"Green plants! I have seen some. Some of ours are green. But most are yellow with a green tinge. They only turn green in fall. A lovely, soft, rich shade, they are, in summer. Our airplants float in the air and dance to the wind. There is no world like Mon-Sil-Mon. Overhead the sky is pale blue and the clouds silver. The breezes speak; odors sweep our moods along with the wandering wind. Green leaves turn down after First Frost, then turn silver-blue on the ground; frost moss covers soil like spangles of silver tipped with ice.

"Oh, Juni, there is no more beautiful world in all the Galaxy! All the brooks sing and the flying things sing. So too do the people. My people are the greatest chanters in our part of the sky. We are famous for our chants. Mon-Sil-Mon is a poor planet, as you know, and we have as resources only ourselves. Thus we train our best and sell their contracts as entertainers across the stars. A chanter from Mon-Sil-Mon is required at any festive occasion on half a hundred planets."

"How about dancers?"

"Our dancers too are good, as are our artists. We dance to the stars, and we create beauty out of many materials. But our chanters are our fame. There we have no equals."

"I cannot believe there can be any better dancers than yourself."

Her plumes fluffed and her eyes

sparkled. "I only regret that I have not been able to lighten the darkness of your ignorance, Honorable Juni. . .but I perceive that though you do not rate my dance at its proper value, you have recognized that it does have value."

* * *

Juni could not keep from watching her, salving himself by the observation that she had been pleased, had not objected. If she knew he was still watching her move lightly about her quarters, she gave no sign. Much of the time she was nude—always for dancing or exercises—and he never discovered the rule by which she clothed herself or not. When not exercising, she tinkered with the food synthesizer, her face a study in concentration, and cooked; she fumbled with garments of various human styles *Firefly* cut for her, and held long, animated conversations with the robot; or concentrated with pouted lips over the ancient jigsaw puzzle that had been aboard ship when Juni bought it.

Much of her time she spent dancing or exercising. Her dances seemed to enthrall her nearly as much when she danced alone as when she danced for an audience; she danced till her silvery skin was flushed and her tiny yellow rosebud nipples opened into little blooms for the entrance of a feathery tongue. She danced daily till near exhaustion.

One day it occurred to Juni that all her dances were aspects of one larger dance that she spent, was spending, her whole life in impro-

vising. Lalominat sank onto a stool, wiping herself with a chilled cloth, and answered: "Oh, yes, Juni. That is how it is with all creators. One creates from out of oneself."

"The only creation I know anything about is technological, and that comes as much from the material and the problem as from within."

"Technology I do not know, but all other kinds of art come from within. Not only creativity, but life, in those who make living an art. Some say this is the greatest art, and these are those who best appreciate the other arts, dancing, chanting, spell-weaving, and all the others. 'Bruin' was such an artist. His life was a chant. So is yours, Juni."

"Mine?"

"Of course. Think how you have shaped your life, how you acquired this ship and with it freedom of the sky, at what cost. For so many years you labored to earn the money!" Awe entered her voice. "And now you are free. . .you savor strange worlds as men savor wine. . .the whole Galaxy is not too large for you."

A few hours later *Firefly* brought Juni out of his brown mood with an alarm. Three ships appeared on their detectors, matching course. *Firefly* turned aside and increased drive at Juni's direction. The three turned to intercept, hanging on their quarter. For three hours he sat sipping coffee and watching them close little by little. In the end they sheered off, lest they be tempted too far from their own territory. If they hadn't lost their nerve, they'd have had him.

"Oh, Juni, who were they? What did they want?"

"The ship, I would guess. As for who they were, they didn't say. One of those minor races who intend to take over the Galaxy . . . some day."

Firefly's voice, translating this for her, was no longer a simulation of Lalominat's, but of Juni's own.

"What would they have done to us?"

"Probably just killed us." A shrug. "One of the hazards of star travel."

"You're so calm about it. Weren't you afraid?"

"Of course. Next you'll be saying there's something wrong with me."

Her enchanting smile and laugh. "Oh, no. Oh, no." Never."

* * *

"You have become very silent of late, Junius." *Firefly's* metallic tones.

"I have become very thoughtful of late."

"What is it you think about?"

"Shrouds, mostly."

"I am worried about your health, Junius." Prime directive lay behind its concern. "Will you step into the diagnosticon?"

"I'm all right."

"You may be in good health, but clearly you are not all right. This morbidity is a danger sign. You should concentrate on healthy images."

"Such as Lalom's dancing?"

"That would seem to be a good choice, though according to my records, you tend to brood after watch-

ing her. Perhaps you should talk to her more."

Juni had not been talking to Lalominat much lately and he felt a twinge of conscience. But he watched her more than ever, dancing of course, struggling with the food synthesizer, arguing with *Firefly* or teaching it her language. She dominated his thoughts; dancing with closed eyes, moving like a shaft of silvery light about her suite, oblivious of his scrutiny, or singing to herself over her table, her voice like many violins, she seemed never out of his mind.

She was so cool and light. Juni wondered what her body temperature was. Slim though she was, she was strong and lithe. To hold her would be like gripping a warm-sheathed sword. He wondered if her lips were warm or cool. Though he had once thought them too thin, it would be delightful to kiss her—warm or cool. Or to fluff the plumes at the inner ends of her eyebrows. . . .

No. The first touch would bring burning, itching swelling; anything so intimate as a kiss would cause searing pain.

Sex would kill her quickly (assuming they could tolerate each other's touch so long); as quickly as snake venom injected into her womb. Convulsions and death in minutes, it would bring her. For himself, death would be more slow, far more painful. . . .

Lalominat called him.

"Juni? You have not spoken to me for two days. . . . And you speak to me so seldom these days. How have I displeased you?" Her violins throbbed in pain.

Juni winced. "You have not. I—I just—" He stared into the visiplat for a moment. "Wait there—I'll be there in a moment."

For a moment he dithered, making motions toward the shower and the silicone oil. Then he darted to an equipment locker and snatched up a folded plastic sheet and hurried to Lalom's door. Alarmed, *Firefly* spoke to him, but Juni didn't hear the words.

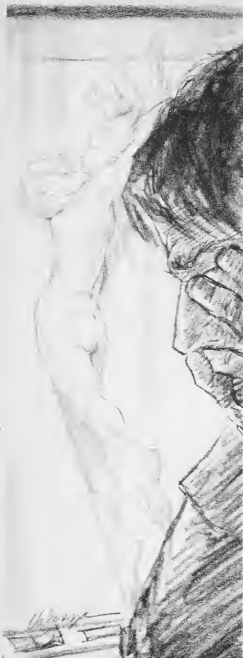
Lalominat awaited him, eyes large, her fists at her sides. Juni walked up to her and dropped the sheet over her, then put his arms around her. He squeezed her to him. Tears stood in his eyes. Lalom yielded, slim and steely against him. Her arms slid up and partly around him, hampered by his grip and the sheet. Juni couldn't speak.

Words weren't necessary.

It was real pain in his eyes that brought him around. Juni's face was flushed, eyes swollen; his hands prickled, his lips itched and burned. Blinking away another kind of tears, he looked at Lalominat through the sheet. Her eyes were closed, her eyelashes gummed together; her silvery skin was flushed yellow. She was beginning to drool slightly from the corners of her mouth. She was altogether lovely.

It broke his heart to back away from her stiffly (his clothes prickled against his skin), to pull the sheet off her. Lalom immediately exploded in a whistling cough or sneeze. It was not time for words; Juni staggered half-blind for the door, a stabbing burn in his lungs.

Outside he dropped the contaminated sheet and ran for his shower. By the time he was able to take



notice of things outside himself, *Firefly* had run out of invective.

Two days later they landed at Mon-Sil-Mon.

★ ★ ★

They all looked like Lalominat. But their attitudes were brisk and businesslike. There was no difficulty in transferring half of his Galactic credit to Lalominat Dancer. So in triumph another daughter of Mon-Sil-Mon returned.

Did she recognize this planet as they approached, or did she need to ask *Firefly* what world it was? But she knew that she was home from the stars before he called her for the first time since they had parted. *Firefly* had informed him that she had packed only some of the clothes it had cut for her and a complete audio-visual record of their conversations.

The ravages of that encounter were gone from her face, but tears spilled from between her lids as Lalom faced him. Juni couldn't speak; he could only croak.

Lalom made a curious formal gesture, tossing her hair forward over her face. Then she straightened, stiffened her back, and walked firmly forever away from him.

Juni gestured wearily and *Firefly* lifted off. He had scarcely seen Mon-Sil-Mon. Was it a fairyland? Or just another low-technology planet off the star lanes? All he remembered of it was a slim, straight back firmly receding. . . .

For a long time Juni sat staring through the visiplatte into the endless moonless night of space. ★

GALAXY

Paul Walker



Something was really bugging Carl . . . but at least he wasn't alone!

1

IT WAS ALIVE. And although it had just come to life, it had, as far as it was concerned, always been alive. It could not see for it had no eyes. It could not feel for it had no hands. It could not move for it had no feet. Yet it sensed around it the world which, as far as it knew, was black and humid, the texture of wood and plaster. Musty and dusty.

It had never been young as it would never be old. In fact, it would not live for more than twenty minutes; and no one would ever know it had been alive, for it was not possible for it to live, being made of mechanical parts with no capacity for organic existence. But it did live by virtue of circumstances no one could have foreseen when the device was planted there behind the wall; by circumstances so unlikely they were unlikely to ever occur again. And, in fact, never have. But this time they did and the little device, which was the size of the head of a pin, was alive. And it remembered everything.

For that was its duty, and its duty was its purpose for existence. Remembering the words. The precious syllables that came from beyond the wall; from the scarlet room with the mirror on the ceiling that it had never seen and could not envision;

from the lips of beings it knew to be like itself in that they were alive, and yet different, far above itself in that they had created it. Beautiful creatures who spoke the words it remembered and revered, the words that were the whole point of its creation.

"My wife hates me. My kids hate me. I don't blame them. I hate me."

It had no idea what the words meant. Nor could it know what the men who had planted it here behind the wall would do with the words it remembered. But, to it, the words were beautiful and precious, for they wanted them. They for whom it remembered. They who would return. And until then it was to wait and to listen for that moment when it would again be held in their hands and asked to speak the words.

How it knew this is a mystery. Perhaps it did not happen. But it explains what happened later.

"Beat me, Sasha, beat me. Harder, harder. Oh, Sasha. Kill me. Destroy me."

Of all its memories, this was its favorite. The words went on and on and on.

It was lonely. It had been alive for only three minutes but of course it had no sense of time. As far as it was concerned, it had been alive for years. They had not come for it. And there were no more words from the wall. And there had been none for a long time. In truth, the room beyond the wall was empty; gone were the scarlet and purple drapes, the mirror on the ceiling, the whips. The room beyond the wall was barren and dusty. Without

even a mouse. And the men were never coming back.

It could not know that. It waited and was lonely. It kept remembering the words, for that was all it could do; and although it did not know what the words meant, it sensed one essential thing about them and that was not in what the words said but in the way they were said; in the sounds between the words—"Oooo—," "Eeee—," "Ahhhh—." Over and over it remembered and with every remembering it sensed the darkness grow warmer; itself lonelier, hungrier for the feel of its masters' hands.

It learned pain then. Want, first. Need. Desperation. It wanted to cry out but it had no words of its own. Instead, it cried, "Lola! Lola!" The words of a short, fat tailor named Kreisler, who was remembered for saying nothing much except by the device, which remembered him for saying what it felt better than any of the others.

It was unlikely that Lola gave Mr. Kreisler what he cried for as she was an insensitive child of nine at the time; but the device was more fortunate. Its cry was heard by another which came to see what it was.

Perhaps it came out of curiosity; perhaps chance. But it came. And something about the device made it linger, although it was not a creature to linger long about anything that was not edible. It probed the thing with its antennae. It felt its warmth. It sensed the sounds that it made. And all these things together made it feel most peculiar.

The device knew at once that something was near. Something like

itself in that it was alive yet something different in that it was not the creation of men. But the mere fact that it was alive filled the device with excitement.

"Lola," it said, "Daddy's here. Lola, come to Daddy."

And it sensed the creature respond. It knew hope.

Of course the creature knew nothing of the thoughts and the feelings of the device. All it knew was the warmth and the curious pulsations that ran through its body, giving it a pleasure it had never known before. So gradually it drew nearer—its pleasure the more intense the nearer it came—until it was atop the thing, its small body pressed tightly against it. And it was then, in a moment of bliss for which the world had no precedent, that the seed of whatever life was in the thing passed into the creature to become the substance of the creature. And that was all there was to it.

The device (how can one put it?) died minutes later. Not that it ceased to exist or ceased functioning but that it ceased to be alive, was once again an inorganic piece of metal the size of the head of a pin lost forever behind the wall of Madame Scarlett's School for Young Ladies.

The creature went about its business. It died a few weeks later of a toxic odor in the kitchen of a young man named Carl Vandermeyer. But not before it gave birth to several quite remarkable offspring.

2

Carl Vandermeyer was a young man successfully employed as a city

planner. He was married to an attractive woman named Shirley. They lived in an impeccably clean apartment on the fourth floor of 1234 East Thirty-third Street.

Late one evening Carl was in the kitchen fixing himself a peanutbutter sandwich when he heard a voice:

"I told you you shouldn't have married that man, Shirley. I told you I didn't like the look of him."

He looked around at the doorway, expecting to see a face in it, specifically that of his mother-in-law; but there was no one. The voice continued: "You could have had Freddie Stone. Freddie Stone thought the world of you. But no, you had to go and pick a pansy."

The voice was distinctly that of his mother-in-law, yet it seemed to be coming from far away. He left the table and walked back into the living room. It was dark. He looked into the bedroom. His wife slept silently. He returned to the kitchen, shaking his head.

"Mother, Carl is not a pansy. He just can't. . .do it."

"Well, isn't that what pansies can't do?"

He stopped in the doorway, his throat dry, and he listened carefully.

Shirley was crying. She was pouring out her heart to her mother, who never missed a chance to assure her it was all his fault.

He knew Shirley's mother had been there that morning. She always came on Wednesdays and brought a large bowl of vegetable soup he had once deceitfully told her was the finest he had ever tasted. She always said she brought it for him, the little boy she had never had. She had never said anything to the

contrary. Yet now he stood in his own kitchen and heard her revile him as a pervert.

How could Shirley have told her?

He felt a little faint.

He sat again at the kitchen table and it occurred to him that it was some sort of dream. But then he heard the voices again. Shirley's mother was urging her to leave him and find a "normal man."

Suddenly he looked up and saw it—a small insect on the wall that he recognized at once to be a cockroach. It was unlike any cockroach he had ever seen before but it was a cockroach all the same. It was prettier than most, for one thing. Bright and brown and shiny. But it had two little round things on its back that spun 'round and 'round like a . . . he hesitated to say it. But there it was: the source of the voices that had spoken together secretly in this kitchen that morning, never intending to be heard again.

He picked up a newspaper. He went around the table. He missed the bug as it moved toward the refrigerator. He missed it again as it disappeared behind the baseboard.

Shirley came into the kitchen a few minutes later, aroused by the noise of her husband's hammering.

The refrigerator had been pulled out from the wall and Carl was down on his hands and knees ripping away the plaster, cursing all the while. She asked him what he was doing and he replied, "Nothing, dear."

3

Carl was late to work the next morning. He had had little sleep.

He left his wife to explain the demolished wall to the superintendent. He had not explained it to her. Nor had he mentioned the conversation with her mother. He had not known what to say about that.

It occurred to him that he had suffered an hallucination, but he did not accept that idea; he had never had a thought in his head that was not level-headed. He could not imagine where the cockroach had come from or how it had accomplished what it had, but he was confident that he had seen and heard precisely what he had seen and heard.

He did not get much done at work that day. Fortunately there was nothing pressing on his desk. He did have a peculiar conversation with a companion named Bartlett.

"The old man has it in for me," Bartlett said.

"How do you know?" Carl asked, surprised. Bartlett and the "old man" had always been on the best of terms, at least whenever they were together. Privately Bartlett had few good words for him.

"He knows I'm after his job. He's going to get rid of me."

"How do you know?"

"He told the chief architect to ignore all my suggestions on the Buford project. You know how important that was to me."

"How do you know?"

"He's going to see I'm not invited to the mayor's office next Tuesday for that conference on the Mayfield deal. You see if he doesn't."

"How do you know all this?" Carl persisted.

"I know," said Bartlett. "Believe me, I know every dirty word he's been saying about me. But what I can't figure out is how he found out."

"Found out what?"

"That I hate his guts."

"Something you said?"

"Or. . . something someone else said."

Carl did not like the way Bartlett looked at him when he said that.

On his way home that night he tried to relax with the paper. It was not relaxing. There had been nine resignations in the city comptroller's office that morning. No word of scandal. Just resignations.

The Huffman-Jinks case had taken a strange turn. The district attorney had accused the defense of tampering with the jury; the defense had accused the judge of racial bias; and the judge had accused both of them of telling obscene jokes about him behind his back.

There had been several suicides in the financial district.

When Carl arrived home, he saw the ambulance leaving the front of his apartment house. He stopped a neighbor to ask what had happened. He was told that Mr. Beckman on the third floor had tried to strangle his wife; Blanche, and she had stabbed him with a carving knife.

"Such a nice old couple," he thought aloud.

"She was playing around," the neighbor said. "I heard him say so."

"No, no," another neighbor intervened. "He was the one who was playing around. I heard her say so."

Carl remembered Shirley telling

him the Beckmans had been married for thirty years. Very quiet, very discrete people. Each with their respective secrets, living together harmoniously.

He found Shirley crying brokenheartedly in the kitchen. The wall had been repaired and there was a bill on the table. He did not look at it.

"She hates me," Shirley wailed. "Oh, she hates me so terribly."

"Who, dear?" he asked.

"Janice."

Janice was Shirley's oldest friend. Carl could not remember a time when they were not friends, and he had known Shirley most of her life.

"What makes you think so?" he asked.

"She said terrible, terrible things about me."

"To whom?"

"To Dr. Bernbaum. What does it matter? They were so terrible."

Dr. Bernbaum was Janice's psychiatrist. Carl did not argue. Shirley was as level-headed as himself. If she used a word such as "terrible," she meant it. Certainly Janice knew enough about her after all these years to know a few things that were "terrible."

"What did she say?"

"She said that I didn't deserve. . . that you. . . that she. . . every night she dreamed about. . . I can't. . . can't. . ."

"But how do you know she said anything? Who told you?"

"I know, Carl. I know. Every terrible word she said."

And with that she ran out of the kitchen and locked herself in the bathroom.

Three days later Carl was on the phone with a Mr. Kravetch of the Federal Bureau of Investigation.

"It is very decent of you to hear me out, sir," Carl was saying. "I've been calling and calling and no one has permitted me to get this far."

"My pleasure, Mr. Vander-ah-meyer. We here at the Bureau like to think we are always responsive to the public. But the thing of it is, ah, just what is it you expect us to do about this bug of yours?"

"No, no, no. It's not *my* bug. At least, that is, there must be thousands—millions—of them by now. And there will be more every day. You know how cockroaches are. They'll be all over the country in weeks!"

"Yes, roaches will be roaches. But I, ah—"

"You've got to do something immediately."

"About your bug. . . er, bugs?"

"Not *my*—that is. . . well, I had better tell you everything."

It had come back. The second night. While he was in the bathroom, in no position to defend himself. This time he had seen it before he heard it. It told him that the most vile things were being said about him and his wife by the superintendent and his wife. It seemed he had forgotten to tip the superintendent last Christmas. He had listened. Not wanting to. But too fascinated to stop.

It was awful. Those two quiet, polite people with whom he had exchanged so many quiet and polite greetings. Vile.

He had heard the bug out. And when it was through, it had left him. Once again he did not get much sleep. But by morning he thought he understood.

"Understood what, precisely, Mr. Vander-ah-meyer?" Mr. Kravetch asked.

"It was looking out for me, you see. Spying for me. I mean, what other explanation could there be? It wasn't lying. I know that. It wasn't making the whole thing up. That would be beyond . . . decency. It was 'reporting in.' "

"The same bug?"

"Who knows? How could I tell? But it was what happened last night that convinced me of the danger."

He had gone to the bathroom at midnight, deliberately, and had sat there, waiting. The bug had come to him and he had had the idea that it would have come to him no matter what room he was in. It kept a safe distance. Told him that even more vile things were being said about him by Bartlett at the office and added a particularly crude conversation between Bartlett and a young secretary.

Carl had stood up very slowly and approached the bug. It moved away from him. He put out his hand. It started to run. He withdrew his hand. It stopped. He put out his hand again. It came to him. Came into his hand.

"It . . . loved . . . me. In some perverse way. Like a dog. That was why it was telling me these things. Out of loyalty. It was deliberately spying on everyone around me in order to keep me informed."

"Isn't that interesting," said Mr. Kravetch.

"Interesting? Why, it's—"

Carl could think of no word to describe the horror he felt.

"We wouldn't mind having a few of those little fellows here at the Bureau, Mr. Vander-ah-meyer," Mr. Kravetch said, laughing softly. "Save thousands on equipment, I can tell you."

"You will have them, Mr. Kravetch. All you could ask for and sooner than you think."

Carl hung up. What was the use? Kravetch was like all the rest. No one would listen.

Very well then.

There was no point in making a fool of oneself.

5

That night he tried an experiment.

He gave the cockroach a small piece of cloth that had belonged to a beautiful young lady down the hall and that he had obtained at the risk of great embarrassment to himself. The insect smelled it, or sensed it, or whatever it is cockroaches do, and went away.

An hour later it came back with a conversation between the young lady and a gentleman named Ambrose that was the most delightful thing Carl had heard in years. She was, indeed, everything he had imagined her to be.

He left the cockroach on the bathroom wall and went into the kitchen. He returned with a hammer. The bug did not move. He smashed it where it stood. Its shell was very hard and two strong blows were required to crush it. It fell to



the floor with a tinkling of parts and a splash of goo.

6

The events of the next few years came as no surprise to Carl. Not that he could have predicted them. Simply, he expected the worst and that is precisely what occurred. Although, oddly enough, not to him. Bartlett's persistent animosity toward him put him suddenly into the "old man's graces"—a position he had not occupied previously. And then, of course, he understood the situation now.

He and Shirley were divorced and living together in a new apartment. She was expecting twins. They were thinking of buying a house in an exclusive suburb following Carl's promotion to head of the department.

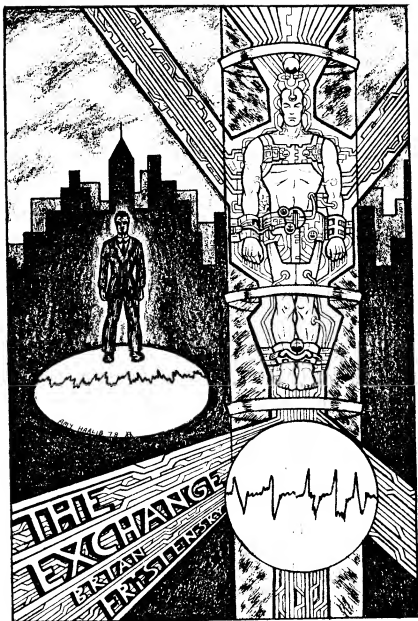
The remainder of their lives is of no interest whatever.

7

Franklin W. Bankes was the President of the United States. He had never anticipated the honor for he had little money, an undistinguished education and no family to speak of; but the events of the past few years had been such that, when all was said and done, there he was.

Late one Monday evening he sat in the blue washroom of the east wing of the White House, perched on the porcelain commode and reading a prepared statement to several small, shiny, brown insects on the wall. It began:

"What I love most about the Speaker of the House is—" ★



The therapy was a success, but the patient. . .

LOST AMONG THE mindless, directionless mass of people on their way to work, a man in a gray business suit stepped off a bus and headed toward one of the innumerable monoliths of concrete and glass that rose above Manhattan Island.

The sky was overcast and at no point did the clouds betray the position of the sun as it made its daily journey from east to west. The city, however, was sweltering from the greenhouse effect and the man was relieved when he finally stepped into the air-conditioned lobby of the building he sought.

After checking the directory that stood by the entrance, the man made his way into an elevator, to be crushed with a number of other people. He felt the sensation of acceleration as the lift swiftly pulled its passengers to the twentieth floor. People came in and went out at each floor thereafter and the tedious ride to the next five floors seemed to defeat the whole purpose of the high-speed mechanism. Finally the elevator came to his floor and he stepped out, along with two other people.

He found room 2507 and walked in. As the receptionist did not look up from polishing her nails, he cleared his throat.

Smiling, she raised her head and asked, "Can I help you?"

"I have an appointment with Doctor Castellano. My name is David Trent."

She looked at her appointment book. "Oh, yes, Mr. Trent, the doctor is expecting you. Go right in."

He stepped into the office as the psychiatrist was putting a book on the shelf. Dr. Castellano was a middle-aged business-suit type, showing a touch of gray on his temples. He greeted the patient amiably with a handshake.

"How are you, Dave? Glad to see you again. Have a seat, won't you?"

"Thank you, Doctor," he said, sitting down.

"Did you have any trouble finding the office?"

"No, your new office wasn't too hard to find. I see you have a new receptionist too."

"Yes, I shared the other one with a couple of other doctors but Cathy here is all mine."

"She seems like a nice girl. Good personality."

"Yes," replied the doctor, "but she's a lousy typist. Anyway, enough of that. There's a lot I want to get done in this session so let's get right down to business."

"Sure thing."

"Okay, Dave." He leafed through his notes on the last visit while he spoke. "Last time we talked about a dream you have been having. To get us started, I'd like you to tell me again, in your own words, about the dream."

"Yes. . .uh. . .there's really not much to it and very little ever happens. All it is is that I'm floating in some kind of liquid, not moving by

myself but just drifting. I never see anything but I hear noises like gurglings or something and it's very comfortable and warm there.

"I've had these dreams about once a month, or every six weeks, up until this summer. Lately they've been much more frequent, maybe once a week. And lately, too, I feel very tired when I wake up after one of them. It's as if I really didn't get much sleep when I know I've slept a full eight hours."

The psychiatrist was listening and he reached for Trent's record, obtained from the National Population Data Bureau. Not looking up, he asked, "These dreams, are they pleasant or don't you like them? How do you feel about them?"

"Well," Trent replied, "they're more boring than anything else, really—just floating, doing nothing. And while they're pleasant and peaceful, there's a little apprehension associated with them as if there were something unknown, possibly something dangerous, about them. And another thing, usually in these dreams I sense a presence of some kind, close by and familiar, but I don't quite know what it is."

The psychiatrist looked over his notes and was silent for a moment. Then he said, "Last week we started talking a little about your mother. You mentioned that she passed away recently. Right now I'd like you to tell me some more about her and the kind of relationship you had."

What does that have to do with my dreams, Trent wondered. What is this guy getting at?

"Well, to answer your question, I guess that through my childhood

we were pretty close. My father died when I was six and I was an only child. My mother never remarried so I was all she had. Money was never any problem though. My father left us quite a large sum."

"I see," said the doctor. "And how are things going for you now?"

Trent thought for a moment before replying. "Well, financially I'm okay. I'm an electrical engineer, as your records will show. As for my social life, I've never been too—you know—too successful with women and I don't have a girlfriend or, for that matter, many friends at all. Most of the people I work with have their own families and all and I don't really know many others." He felt greatly embarrassed and did not look at the psychiatrist as he spoke.

He continued. "My mother and I lived on Long Island until she died and then I moved to the city. Now my life revolves mainly around my work, and I also go to school nights."

"How do you like New York, Dave?"

"To tell you the truth, I don't like it very much. The city is just so big. I feel insignificant. If I were to die right now, I doubt that anyone would bother coming to the funeral. Why is it that in a city of eleven million I feel so alone? There must be something wrong with me. I walk down the street and see people, even the lowliest menials, who have friends, girlfriends, wives, families. Why am I an exception?"

The psychiatrist seemed to marshal his thoughts. "Dave, you are

exhibiting a typical case of what I call the 'Metropolis Syndrome.' A great many people in cities like this one have the same problem—loneliness. You would be surprised at the number of people who come in here and, behind all of their obvious problems, just want somebody with an understanding ear to talk to. The city is big, overwhelming, unless you become a part of it. That's what I suggest to you—become a part. Your insecurity seems to stem from having no real focal point of stability, except possibly your work and that isn't enough. Everyone needs people to give him some stability, especially in this fast-changing society.

"In your case your mother was that point of stability. She was the major center of your early life and therefore she represented security to you. This feeling of loneliness has been heightened by her recent death because to you she was a point of permanence in life. Your mother had always been there and it seemed as if she always would be. We all have these points of 'permanence' in our lives—until we're rudely awakened to the fact that transience is the rule of the world, not permanence.

"I think your dream sort of symbolizes this. What you describe in your dream, from both the physical and the psychological viewpoints, is what it's like to be a fetus. Sigmund Freud had a lot to say about this with respect to mother-son relationships. There is often an unconscious desire to crawl back into the womb, where there is real security. Before you were born, you had always known peace, contentment

and security. When you were born, there was the gasping for air, the doctor's slap, the fight for life. This is known as birth trauma and perhaps it's the hardest thing to accept in life. The start. From then on, there is pain and suffering—mixed, of course, with periods of joy and happiness. But sometimes we want to crawl back into the peacefulness of the womb and this is what you're doing in your dream. Whether you're remembering or re-creating in your imagination how it was, it doesn't matter. But since you can't crawl back into the womb, you must find some other type of security outside. Do you have a religion?"

Trent fidgeted uncomfortably in his seat. "No, what does that have to do with it?"

"Well, I thought that maybe a church would be a good place to start. How about a club of some kind, a health club or some other special-interest club or lodge?"

"I've never really thought about it," said Trent. "It sounds like a good idea."

"I can do nothing for you. I never can. The patient always has to do it himself and so I'm leaving you with the task, within the next two weeks, of finding some group or club you're interested in and joining. Okay? That'll be your therapy. I'll see you in two weeks then, and we'll see how it's turning out, all right? My secretary will make an appointment for you."

Trent stood up and they shook hands. "Sure, and thanks a lot, Doctor. You've been a great help."

* * *

He awoke in a cold sweat and jerked to consciousness. He felt fear but had no reason to be afraid. Somewhere out there was a presence, very near. He felt it. It was strangely familiar to him, although he couldn't recognize it. Trent lay motionless in his bed while the city lights leaked in through the curtains. The room was still; the only movement came each minute as the digital clock changed its reading.

The presence rapidly drifted away from his consciousness and Trent began to feel more relaxed. He lay motionless in bed and listened to himself breathe for a long time. He finally fell asleep.

* * *

The next thing he was aware of was an acute pain in the back of his head. He awoke with a start and sat up, clutching the damp grass beneath him. The pain of the lump on his head gave way to confusion as he became aware of the trees that surrounded him and the moon that shone overhead. Trent was in the park, sitting on the ground. His clothes were damp from dew and he shivered as he realized that he must have been out for quite a while. As he stood up, he realized too that he couldn't remember getting out of bed, dressing and driving here in the first place. He should still be at home, sleeping.

He wanted to see what time it was but he discovered that his watch was missing. So was his wallet. He checked on the ground and found the leather case a couple of yards away, emptied of its cash. Now he knew why there was a

lump on his head. He had been mugged—but he didn't remember a thing about it.

He made haste to get out of the park before another mugger tried his luck. He walked home in the dark, glancing behind occasionally to make sure no one was following. It wasn't exactly the safest neighborhood in the city.

* * *

"At first I thought it might be just amnesia or something from being hit on the head. But a lot of strange things happened to me after that."

He looked at the psychiatrist, whose expressionless face told him nothing. Dr. Castellano asked quietly, without any movement, "What sort of things, Dave?"

"Well," he began, "after that I started to sleepwalk. I would wake up in the morning fully dressed and with mud on my shoes, or maybe I would wake up miles away from my apartment. I would have run up bills that I didn't remember anything about. I also checked my odometer. I've been doing a lot of driving in my sleep. But the real clincher was last Wednesday."

Castellano scratched a short note in his pad and without looking up, he asked, "And what happened last Wednesday?"

"I had to go to Chicago on a night-coach flight right after work. It was a business trip. Anyway, I was pretty tired so I dropped off to sleep as soon as I boarded. The next thing I knew I was in my hotel room, and it was 2 a.m. I woke up and found my baggage all un-

packed. That plane took off at 7:09 p.m. Now I had had a seven-hour lapse and I don't know how to account for it. This didn't bother me as much as the next evening did, when I got a phone call from a girl who said she had met me on the plane.

"Out of curiosity I played along with her and found out that I had a date with her. I met her and we went out together. She said that I seemed different than I had the other night and she told me things I had done and said that were totally out of character."

"Like what, for instance?"

"Well, the fact that I even picked up a girl on a business trip is very unusual. I'm usually, like, you know, afraid to start a conversation with a stranger, let alone a strange woman. And my drinking was another thing. I never drink whisky sours but she said I'd had three. And I never drink heavily anyway. Then there's my preference for foods. She said that we'd had lobster the first night but I despise lobster. I would never eat that insect."

Castellano eyed him. "I see. Anything else?"

"Yes, there's more to it. I went to sleep that night, Thursday, and woke up to find I was in bed with her. I was a little surprised but didn't say anything about it to her. The next morning I found out that it was Saturday—when it was supposed to be Friday. I had gotten up Friday, gone to business meetings all day, gone out with Louise—that's her name, by the way—brought her up to my room and spent the night with her without even knowing it! When I looked at

the notes of my Friday business meetings, they were unlike anything I normally would have written. The style, format and wording were all totally different from my own. This is all so crazy. What does it mean? I can't just be sleepwalking!"

Trent appeared confused and upset. Castellano noted the change in his demeanor; he had been calm when he walked in.

"Do you remember anything that happened during these periods of . . . sleepwalking? Any dreams perhaps?"

Trent thought for a moment before responding. His mind was clearer now and he answered excitedly. "Yes, come to think of it, I do remember something. It's very unusual for me to remember any dreams so there must be some significance in the fact that I had that dream about floating. I remember that dream because I always wake up disturbed after it."

The psychiatrist wrote down the words "possible dissociative neurosis" on his pad. He marshalled his thoughts to formulate a carefully worded response.

"Dave, sometimes when a person has . . . ah, anxiety about a certain part of his behavior or his thinking, his mind is trying to reconcile two conflicting forces. You noted that your behavior during these 'periods of unconsciousness' was, shall we say, less conservative than the way you normally act. You picked up a girl, drank heavily, went out for a walk in the middle of the night. In short, you did things that you would never really do but had always thought of doing.

"Now here's where the dream

ties in. When you lived with your mother, she was an inhibiting influence on you. Of course you could come and go and do as you pleased, she couldn't stop you. Yet she was there with her watchful eye on you, asking you where you had been and noting the hours you kept. When she died, the inhibition was gone and you secretly wanted to break free and do all the things you couldn't do before. But part of your mind still had your mother's programming in it and so 'dissociated' itself away from the rebellious part. In those dreams your conservative part was able to rest in your mother's womb, unaware of, and therefore not responsible for, the things that your rebellious part was doing."

This idea seemed agreeable to Trent. "Uh, Doctor, I don't know very much about psychology but . . . I don't know, I guess what you've said has a lot of truth to it. I can see what you mean, for instance, about my wanting to do things and yet not doing them. There are lots of things that you hear about—people climbing mountains or hitchhiking across America, all sorts of things—that you might secretly want to do but would never seriously consider doing. For example, I could never have told my mother that I wanted to go skydiving. She would probably have sent me to you!"

They both laughed. Castellano replied, "I can assure you that the first time I went skydiving, I thought I was crazy. But you live through it and usually jump again. Have you ever jumped?"

Trent felt embarrassed and

smiled. "Well, I almost did once but on the way to my first lesson, I began to think, 'What if I got hurt or killed?' My mother would probably have had a heart attack or something. So I never did it."

The psychiatrist shook his head. "I think we've found the root of the matter. Now comes the time to formulate a plan of attack. However, I still need more data to be absolutely certain. Specifically, I need to test my theory on the role of your dreams in this matter. Therefore I would like to suggest that we run some EEG's on you."

"EEG's?"

"An electroencephalogram. Simply, we measure what has been popularly called brain waves. These brain waves are merely the patterns of the fluctuations in the measurements of certain physiological functions associated with the brain's operations. Everyone has his own unique pattern, sort of like a fingerprint. In your case we would probably monitor your EEG as you go to sleep. Any unusual variations could show us the nature of the problem. The EEG will help us to determine whether your problem is physiological or purely psychological."

Trent was startled. "You mean there could be something wrong with my brain?"

"That's a possibility but at this point I have no reason to believe so. I just want to make sure—to be on the safe side."

Trent's face grew serious. "Now I'm getting a little scared. I mean, this could be something serious."

"Really, I wouldn't worry. These are only standard tests and we do

them all the time. I'm sure that one way or another we can find a solution to the problem."

"Well, I hope so."

"Dave, this will probably require a week or more of sleep testing and I would prefer to conduct it in your apartment, in your own bed. Controlled tests are more accurate when as many variables as possible are removed."

"What do you mean?"

"In other words," Castellano replied, "home is the place where you're most likely to sleep as you ordinarily do. Variations might be caused by a change in the environment."

"Yeah, okay. I guess that would be more convenient for me anyway. When do you want to begin?"

"Oh, probably next week. I'll have my secretary call you in a few days to confirm the date."

Trent got out of his chair. "Hey, I have to get back to work. My lunch hour is almost up." He started to the door.

The doctor smiled at him. "Okay, Dave. See you sometime next week."

Trent walked out.

* * *

The EEG was to be conducted by two technicians from Columbia University. Actually they were graduate students already involved in sleep research and they knew Dr. Castellano at Columbia. Lori Howell and Carl Pruett arrived at Trent's apartment armed with two suitcases of equipment and an attaché case containing a phone-link computer terminal that could be used with any

of Ma Bell's millions of children.

Trent ushered them into the bedroom and they began setting up their equipment. He decided to clean and straighten the kitchen. Once they got started, there would be no free time to do the things that needed doing. He selected his most conservative pair of pajamas and put them on in the bathroom. As he approached the bedroom, he saw that they were almost ready.

Pruett called out, "Mr. Trent, we're about ready for you now."

Trent stepped into the room, feeling ridiculous. His pajama top sported pink turtles on a white background, while the pants were a hot pink.

Pruett and Howell tried not to stare at the pajamas, which Trent had never before allowed anyone to see.

"Well, I'm ready."

He surveyed the room and his embarrassment turned to amazement as he looked at the equipment. The pens on the graph paper were still and a mass of colored wires lay near his pillow. On a table were some bottles and medical implements. The entire room had been transformed into a laboratory.

Trent remarked, "It's fantastic how all this stuff can be miniaturized. I'm really impressed at its mobility."

"Well, Mr. Trent," replied Pruett, "the EEG wasn't always as widely used as it is today. When the 'cessation of neural activity in the cerebrum' became the legal definition of death, it became necessary that this equipment be made portable and, above all, cheap so that local hospitals, emergency units

and the like could have a quick and readily available EEG anywhere, any time."

Lori Howell motioned to the bed. "If you'll sit on the bed, Mr. Trent, I'll prepare you for the electroencephalogram."

He walked over and sat down. "As you wish."

She had already washed her hands and she began to work like a surgeon, Pruett acting as her assistant. He opened a book filled with diagrams and she prepared to apply the first electrode. She parted Trent's hair at the back of his head and rubbed his scalp with a wet cotton ball. It felt cold to him as it evaporated.

"What's that?" he asked. "It doesn't smell like alcohol."

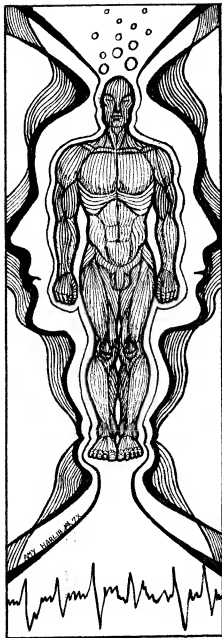
"That's because it's not. It's acetone," she said, "to dissolve skin oils that might interfere with the transmission of electricity."

She was ready for the next step. "Saline gel," she ordered. She was handed a cotton swab covered with a clear ointment. She applied it to the proper spot.

"Now I'm applying an electrolytic gel to facilitate better conductivity. We're going to achieve electrical discharges directly from your brain."

"I see," he said, beginning to feel like a lab animal.

"Now for the electrode," she said. To a carefully chosen site on Trent's head, Howell taped a metal disk with a wire attached to it. This was labeled No. 1. They continued the same process with the rest of the electrodes until all twelve were attached, including two on his eyelids to measure Rapid Eye



Movement. These were the most uncomfortable of all.

Trent was lying in bed now, connected to wires dangling in the air. Pruett moved a monitoring unit into the next room while Howell briefed the lab animal with last-minute instructions.

"Mr. Trent, we're about ready to begin now. All you have to do is sleep. We'll take care of the rest. Our machines won't be heard in here and you needn't worry about those electrodes. Just think about how many women are going to sleep tonight with curlers in their hair. Electrodes are a lot easier to get used to than curlers, I can assure you."

He was surprised. "You mean you've undergone sleep-testing before?"

"Oh, yes," she lied. "I would never ask a person to do anything I hadn't tried myself." What he didn't know wouldn't hurt him, she thought.

Turning to the doorway, she called, "Carl, switch it on."

Trent was surprised that he felt absolutely nothing. He had almost expected, when hooked to the machine, that he would become part of it, part of an electronic being.

"Blink your eyes, if you will, a few times just to see if everything's working properly."

Under the electrodes, he blinked. Pruett informed her, "Lori, I'm getting some blinking here. Everything looks good."

She moved toward the door and turned off the lights. "Good night, pleasant dreams."

Trent returned her "good night" as she shut the door.

* * *

The New York Clone Bank had been in existence since 1995 and in commercial operation since 2002. It had enjoyed a great success among the more affluent members of society and had recently fallen within the financial reach of the upper middle class.

Anyone who could afford the price could have a clone, an exact duplicate of himself, made from the genetic information in one of his body cells and grown and kept alive in the Bank. Whenever an organ transplant was needed, or quantities of blood, one's clone would be the perfect donor, eliminating the possibility of tissue rejection in transplants. But perhaps the most attractive aspect of cloning was that with the imminent arrival of brain-transplant capability, immortality, or at least something close to it, would be possible. When one's own frail body was worn out after seventy years, it would be possible to transplant the brain, the seat of consciousness, into a young, clonal body, exactly like the original in every way.

The storage of clones occupied five floors in the Bank and space was being used up rapidly. Already proposals for a new building were being presented to the Board and something would have to be done about it soon.

Dr. Harold Bennet was the Supervisor of Clone Maintenance, Night Shift. He resented the title because of the janitorial duties it implied. Granted, somebody had to oversee the care of the Bank's sub-human population but he hated hav-

ing such a label on his resume. His hours and lack of contact with other scientists in his field were isolating him from the mainstream of research. But the job market is bad now, he reasoned to himself. At least he had a job in his field, which was more than a lot of his fellow graduates could say. Still, he was sinking into a rut in this job. While he would like to be doing research, he really wasn't looking very hard for such an opportunity.

Bennet's mind had long since wandered from the journal he had been reading and he was startled when someone knocked on the door. He told the visitor to come in and Charlie Lowe, one of the technicians, entered.

"Doctor Bennet, something very odd has happened with one of the clones."

"What is it, Charlie?"

"It's hard to explain. You're going to have to see for yourself. I've never seen anything like it. C'mon."

They stepped into the corridor and began walking to the Clone Storage Center, which occupied most of the floor.

Lowe continued, "About fifteen minutes ago we got a warning signal from the computer monitor that all sensory contact with Clone 73-145 had been broken. This doesn't necessarily mean anything since we're having equipment failures all the time. But when we, Greg Estes and I, went to take a look at it, we found... well, I know you're going to say this is impossible but we found the clone in an odd position."

They entered the anteroom to the

Storage Center and put on the sterile gowns and masks that were always worn in the germ-free environment of the clone-tube galleries.

Charlie continued talking as they entered. "You've got to see this. The sensory wires on the clone were pulled out and we found them in its hand."

They passed row upon row of clone tubes, three levels high, accessible by catwalks. The dim light of the room added an eerie quality to the quiet galleries. There were seldom many people here and the atmosphere was hushed. The only sound was that of the quiet, automatic machinery. One could hear the gurgling of the pseudo-amniotic fluid pumps and the hissing of the oxygen system. The two men walked down the silent aisle, passing tier after tier of floating bodies, all in the fetal position; human but mindless, only the motor portions of their brains intact.

Thank God their eyes are never open, thought Bennet. No matter how long he worked in this place, he always felt a little uneasy walking past the silent spectators, as if on parade. In his nightmares he could easily imagine the clones becoming animate.

They approached the clone tube beside which Greg Estes was standing, writing on his clipboard. He saw them and called out, "Over here, Doctor Bennet."

They stopped a few feet away from 73-145 and Bennet saw the hand with the wires, just as described. It was apparent, though, that the wires were not being grasped by the hand but were merely caught on it, as if some

movement of the arm had accidentally ripped them out. However, there should have been no movement at all.

Bennet let out a whistle and turned to the technicians. "That's really something. How did it happen?"

Estes looked at him. "We were hoping, Doctor, that you could tell us."

He surveyed the situation more closely. "Well, it looks to me like a loose wire in the monitoring system somehow gave the clone a shock. It moved as a reflex action and accidentally pulled out the wires."

"I don't think so. I checked for loose wires and couldn't find any," said Estes. He continued, "Besides, the chances are that if there was enough current to cause a reflex action, the clone would have been electrocuted. As you can see, it's very much alive, perhaps more than we would like to think."

Bennet eyed him with disdain. "Are you suggesting that perhaps our clonal friend moved of his own volition? The cerebrum is destroyed long before artificial parturition, making thought or independent movement impossible. Look at the scalp closely. There are the sca—" He stopped abruptly.

There were no scars on the skull where the massive doses of acetylcholine should have been injected to render the brain incapable of storing information. These doses were normally injected in the frontal and occipital lobes of both sides of the cerebrum but the cerebellum and the medulla oblongata were never disturbed because of their vital func-

tions in controlling the involuntary life mechanisms of the body. The result was an organic machine kept alive by hormone injections and intravenous feedings. The "thing" was more vegetable than human and the Supreme Court had even ruled as much on the matter, stating that the higher portion of the brain had to be functioning in order for the organism to be considered human.

Bennet whispered emphatically, "There *are* no scars. That brain could still be fully intact."

Lowe added, "In other words, we have here a human being."

Bennet turned sharply to both of them. "Not a word about this to anyone. Greg, get the EEG and set it up for testing everything as on a normal human, not just the motor portion as you would on a clone. We've got to determine if this brain is really intact. Charlie, get me the file on this clone. We have to see if there are records of the injections or not. Then I want to meet both of you in my office as soon as possible."

Bennet headed for his office. The behaviorists would have a field day on this one, he thought, if this is really what it appears to be. What could a lifetime as a fetus do to a man's mind? The implications were profound.

Within forty-five minutes the men were gathered in Bennet's office, having completed their tasks. Bennet read the file out loud.

"This clone belongs to a Mr. David Trent, who lives here in the city. It was made when he was seven months old and his parents set up a trust fund for its care here at the Bank. Let's see, 2013 was

when he was cloned and it's now 2049. He must be about thirty-six years old. What does the medical history show, Greg?"

"Well, the checklist says that all the acetylcholine injections were given. The supervisor's inspection sheet is marked 'satisfactory' and states that all the items on the checklist are complete. But wait...the supervisor's sheet is dated *before* the checklist. Something must have been mixed up."

"Yes," said Bennet, "and the clone might never have had its injections." He sighed. "We may have a real legal problem on our hands."

"Do you think the courts would declare the clone a human being?"

Bennet grew thoughtful. "I hope not. Beside the inevitable law suit, which could hurt the Bank financially, we could be deprived of a good research opportunity."

"Meaning you can't experiment on 'human beings,'" Estes said.

"Exactly. And just think of the possibilities. For the behaviorists, there's the opportunity to observe a mind whose whole existence was without stimulation or rational thought. It would probably give them a chance to learn more about which aspects of behavior are learned and which are inherent in the human psyche. Also, from a neurological point of view, we have an opportunity here to learn about the way thought and neural activity are related. But all this depends on whether or not we'll be allowed to experiment on the clone. The EEG is going to be a big factor in that respect so let's get on it."

They left the office.

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The sleep-lab technicians had been taking Trent's EEG for six nights now and this was the seventh. Dr. Castellano was speaking privately with Pruett while Howell prepared Trent for the EEG.

Pruett was explaining to Castellano the past week's progress. "Everything was perfectly normal at first. We got textbook EEG's right away and no signs of any organic disturbance. The pattern I have in my hand, pattern A, exemplifies this. Then at 2:04 of the fourth night we got this pattern, pattern B. Now notice that here he's in Stage Four sleep, the deepest stage. Then suddenly we get this pattern from God knows where with mixed gamma and beta waves. Pattern B has been occurring over increasing periods for the past three nights.

"That's why we thought it would be good to have you look at it."

"Has there been any equipment failure?" asked Castellano.

"No, Doctor. We used three different machines and got the same results on each. Whatever is causing this is in his brain and I'll be damned if there's anything about it in the literature. Granted, there are normally some variations in the pattern for different reasons but here we have a whole *new* pattern. This would seem to indicate a drastic change in the functioning of the brain—and that should be impossible. The basic pattern just isn't supposed to change."

"Yes, Carl. I tend to agree with you. By the way, do you have a tape recorder?"

"Yes, we always do in sleep testing."

"Good," said the psychiatrist. "I'm going to try to talk with him if and when the pattern occurs and I want to get it on tape. This should prove very interesting. Oh—one more thing—have you questioned Trent at all in conjunction with these B patterns? I'm particularly interested in any dreams he's had."

"Yes, we have. If you look on the graph, you'll see we had pattern B for a while and then it returned to pattern A in Stage Three sleep. Then it quickly went up to Stage One, consciousness. Trent told us in each case of a dream about floating. Do you—"

"Yes, that's exactly what I'm looking for. He has mentioned those dreams before. That's very strange and I can't connect everything just yet. Somehow it all has to fit together but I can't seem to figure out

how. I hope interrogation will help us."

There was a knock at the door. Lori Howell popped her head in. "Doctor Castellano, the patient has just gone to bed. Are you ready?"

"Yes, Lori. Let's watch the EEG."

They watched the patterns increase in amplitude and wavelength as Trent fell asleep. Everything was a firm pattern A. After two hours they had finished a pot of coffee and were beginning to get bored. Trent was just starting to go into Stage Four sleep, the deepest part of sleep, but now he was in pattern B.

"Doctor Castellano," said Howell, "here it is again. Notice those sharp peaks as opposed to pattern A's rounded peaks. This is definitely pattern B. Do you think we should try to wake him?"

"Not yet," replied the psychiatrist. "I want to look at the REM graph."

He studied the graph for a time and then said, "Now that's strange. He's in Stage Three sleep and he should be dreaming but the lack of Rapid Eye Movement shows that he's not. As a matter of fact, he wasn't dreaming before, when he was in the period of light sleep in pattern A. Let's—"

He stopped in mid-sentence. The pattern was changing back to pattern A. Trent woke and clutched his arm, sitting up quickly. He looked at everyone and then started to laugh.

"Ha," he said, "it was only a dream." He turned to Castellano. "Doctor, you know that dream I told you about, the one where I was

floating? Well, this time I tried to move and my muscles were really stiff, as if I had been inactive for a long time. Anyway, I started moving in this sort of thick fluid I told you about and I felt something hard, like a wall. Then my arm hit against something flexible, like a rope or a wire. I tried to move it out of my way but it didn't give. I hurt my arm on it and then I woke up. It's the funniest thing."

Neither Castellano nor the technicians seemed to find anything funny about it and they looked at each other with surprise. The description of the rope or wire brought to mind the fetal umbilical cord but Castellano quickly dismissed the idea. He was beginning to question his Freudian fetal theory altogether.

Pruett questioned Trent. "Mr. Trent, are you absolutely sure you dreamed this just now? The EEG shows that you couldn't possibly have been dreaming at any time while you were asleep."

Trent was indignant. "Look, I know what I dreamed. Maybe your machine's on the blink. You've used three already and—"

Castellano put a stop to the argument. "Don't worry, Dave, that's unimportant. You were obviously dreaming something and perhaps we can find an explanation for the reason there was no indication of it on the graph. At any rate, I'd like you to go back to sleep again so we can collect more data."

They left the room and Trent started to fall asleep again. After what seemed like a long time, he slipped through the stages of sleep into the mindless limbo of Stage Four.

"He's in Stage Four, Doctor," reported Howell. "Physiological functions are very low."

They waited impatiently for pattern B to appear and after a while it started abruptly.

"There it is, Doctor," whispered Pruett.

* * *

In Bennet's office three very grave men sat in heated discussion.

"Look, this EEG definitely proves that the clone has a mind and that the cerebrum is intact. This is legally a human being, not a clone," said Estes.

Bennet agreed. "Yes, that's true. But why should we be getting two different EEG patterns? It doesn't make any sense. This is an anomaly that has never been observed before. It could lead to a very important breakthrough in our understanding of the mind. We don't know how spending a whole life in a clone tube—with no stimulus whatsoever—could possibly permit this effect on the EEG but we might be able to find out. We could very easily have stumbled onto something truly important."

Like a tune long forgotten but suddenly called to mind, ambition ran through Bennet's head. Here was the chance, the opportunity, the lucky break. He would be on the ground floor of a new breakthrough. He could make a name for himself. Hadn't he majored in psychology during those pre-med years? Now he could put it all to use.

Estes had more immediate and practical things on his mind.

"You haven't thought, Doctor,

what this could do to us. You know the laws against experimenting on human beings. This thing is legally human and it probably has a mind. Even if you could complete your research, you could never publish anything on it. You'd be arrested and so would we, as accomplices. Remember, there are still many people vehemently opposed to cloning. If this ever got out, there's no telling what could happen."

Bennet thought this over and ambition slowly retreated to the far corners of his mind. Finally he looked at Lowe. "What do you think, Charlie?"

Lowe immediately responded. "Doctor Bennet, there's only one thing we can do. We have to destroy the cerebrum—as it should have been destroyed years ago. If we just leave it, somebody else may find out about it and that could be very bad if it ever got out—bad for the Bank and bad for us. It's better for all concerned if we destroy the cerebrum now. No one would ever know. It's the only way."

Bennet looked at Estes. "I agree," said Estes. "We have to do it and quickly, before anyone finds out."

The scientist slowly nodded his head and sighed. "Yes, you're right. It's the only way. Bring the proper equipment and include a surgical drill. We're going to have to drill through the skull. Then meet me in the scrub room."

They left and Bennet slowly made his way to the anteroom adjacent to the main part of the Storage Center. He had just finished scrubbing when Lowe and Estes walked in with sterilized equipment. They

scrubbed in silence and then made their way to the clone.

Bennet drained some of the thick pseudo-amniotic fluid from the tube and removed the part of the tube covering the head. Then he secured the clone in place with restraining straps. When this was done, he stopped for a moment to examine the bald head.

"This is going to be a bit different than our normal procedure on fetuses. The fontanelles are closed. We have to drill."

Bennet was handed a cotton alcohol swab with which he sterilized the scalp. Then he found the juncture of the frontal and parietal plates of the skull where the anterior fontanelle had been.

"Scalpel." He was handed the scalpel and made several incisions. Carefully he separated the skin.

Trent was floating, motionless. He heard strange, muffled sounds and felt something cold and hard touching his head.

"Drill." Bennet was handed a small, high-speed drill with which he made a tiny hole in the skull.

Trent felt pain and tried to cry out. No sound emerged.

Estes saw the lips move and called it to Bennet's and Lowe's attention. "Look, the lips are moving, as if he . . . it . . . was trying to articulate."

"We'd better hurry. The drill may have hurt. After all, we're not using a local anesthetic."

Bennet quickly finished drilling and was ready for the next step. "Acetylcholine." A hypodermic was handed to him and he punctured the three membranes enclosing the brain—the dura, the

arachnoid and the pia matter—injecting acetylcholine into the frontal lobes of both hemispheres.

Lowe was watching the EEG. "We still have the pattern with the rounded peaks, Doctor. No sign of the other one. I can see the injections beginning to take effect now."

Bennet drilled again and injected the acetylcholine into the occipital portion of the brain.

Trent's mind rapidly faded away, out of existence.

Bennet watched the cerebral lines on the EEG graph. The pens danced wildly across the paper as billions of neural impulses were scattered through the cortex. He stared at them, contemplating what he had just done.

"Not a word of this to anybody, ever."

Estes and Lowe nodded in agreement.

* * *

In Trent's room a man in bed was slowly coming into consciousness.

Pruett was watching the EEG intently. "Doctor Castellano, we still have pattern B but he's waking up. He'll be conscious in pattern B for the first time that we've ever observed."

The man stirred and opened his eyes. I'm here again, he thought. Why are they looking at me so strangely?

"David," said Castellano, "how do you feel?"

He decided to retain his incognito. Besides, who would believe him if he told the truth? The clone spoke through Trent's mouth.



"Fine, Doctor, quite well."

"Did you dream anything?"

"Dream? No."

The clone tried to contact Trent's mind as he had always been able to before. There was nothing there. Somehow he knew that there would never be anything there again. *He* was David Trent now and all those years as an unnoticed observer in Trent's mind were finished. David Trent was dead.

"Doctor Castellano," said Pruett, "pattern B seems stronger now. No sign of pattern A at all."

Castellano eyed Trent curiously. There was something different about

the man in front of him but he couldn't quite put his finger on it.

* * *

The next morning, briefcase in hand, a man in a gray business suit stepped out into the street on his way to work. Indistinguishable from the rest of the mindless, directionless mass of people, he quickened his pace as he neared the bus stop. The sky was overcast with smog again and it looked as if it would be another hot, sticky day. He boarded the bus. ★

FORECAST

Back in the days of H.L. Gold and Frederik Pohl, one of the names GALAXY readers always looked for was that of Cordwainer Smith.

They didn't even know who Smith was, then; only that he wrote some of the most provocative science fiction ever published—in GALAXY or anywhere else. He was the creator of the pinlighters and the go-captains and the Norstrilians and the Underpeople; of stroon and planoforming and Spaces, and all the other strange people and inventions in the universe of the Instrumentality of Mankind.

Smith's last appearance here was in 1966, the same year as the death of Dr. Paul Myron Anthony Linebarger—then revealed as the man behind Smith. But there was also, at times, a woman behind Smith: Paul's wife Genevieve. She had collaborated with him on several stories, including "The Lady who Sailed the *Soul*," which appeared in these pages. And she knew him, obviously, better than anyone else.

Next month's cover story is "The Queen of the Afternoon," a posthumous collaboration. From an uncompleted manuscript left by Paul, Genevieve has completed a story set in a time little touched on in other Smith fiction: the time of the Fighting Trees and the Unauthorized Men, of the Rule of the Jwindz and the origins of the Instrumentality itself.

Also watch for "The Defector," a unique story that ponders the kind of responsibilities a writer may face if he becomes a Real Writer and creates Real Characters—by the leading Soviet sf author Olga Larionova. And a few other surprises that ought to please all of you.

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THE MORRIS LOOM

Tristan

He was a nuisance, let
alone a mystery. Still, he
had his uses. . . .

*ERDA: Yet while I sleep
the Norns are wakeful:
they weave the rope
And truly spin what I know.*

Richard Wagner
Siegfried, Act 3, Sc. I

BY DEFINITION THERE is no such thing as a fail-safe interstellar vessel. Spacemen know it, live by it, on occasion die from it. Starship technology is too radical, too complex; the vastnesses and emptinesses "out there" discourage dreams of ideality. Designers do the best they can, of course, but . . .

The engineering team responsible for TerrStshp *Tristan* at *Gross-Europa Raumschiffwerk, GmgH*, in Stuttgart, was talented, eminently abreast of the state-of-the-art. GER's riggers and technicians who assembled the vehicle on-orbit were dedicated, first-rate employees.

Nevertheless, during the starship's seventh deep-space mission, *Tristan* succumbed to immutable odds—or so it seemed at the time. In midflight, while supposedly undetectable by chance observation, an unheard-of occurrence took place: The ship's dual-fusion tokamaks failed simultaneously, without warning. One instant *Tristan* arrowed true, existing only hypothetically as a flux of non-relativistic waveforms propagated at unthinkable velocity through equally hypothetical n-space; the next, it floundered, a bulbous-ended titanium alloy cylinder in the pragmatic starlight of the Einsteinian universe—not its proper element.

A mere tenth-of-a-parsec distant, the nearest planetary system might

as well have wheeled on the opposite rim of the galaxy. The sea of stars is dotted with countless islands but they are *desperately* far apart. Robinson Crusoe and brethren are a vanished species.

* * *

Senior Xenologist Grije van Polder came awake with a start. Silence, total darkness, engulfed him. He felt a bubble of fear swell rapidly, threaten to burst into panic as the whirling vertigo of transition churned his bowels. Then—sudden weightlessness.

Pulse pounding in his throat, he fumbled with blind fingers at the restraint webbing of his bunk. The compartment's sparse furnishings, as if by magic, rearranged themselves in the choking, near-palpable blackness. Lack of gravity made his disorientation absolute.

He moved swimmingly, bumping his head on objects unseen, and at last found the touch-plate that should have activated the sliding door. He slapped the plate time and again, clutching the door handle to prevent himself from drifting away. Nothing happened.

Van Polder swore a wholesome oath. He was groping for the mechanical override latch when the door slid out of his grasp. Siridar Mashbravatan's swarthy, bearded countenance hovered topsy-turvy in the hatchway, limned in the dim glow of an emergency lamp on the companionway bulkhead. It was the first time that van Polder had seen the linguist without his turban.

"Whew! Thanks, Mash. What is it?"

"Blessed if I know. A power-room flap of some sort. Always did feel thse bloody space-buckets were death traps. Now I'm *certain*."

"Easy," said van Polder. The quixotic linguist, his companion on four previous field expeditions, was exhibiting his usual brand of amiable pessimism. "Let's hear the score before we jump to conclusions. Where are the others?"

"In the lounge."

Rigged for deep space, the ship's freefall safety lines had been stowed after n-space transition when pseudogee enveloped the vessel. Neither of the scientists considered himself a "spaceman"; they negotiated the passageway with the inept clumsiness characteristic of most planet dwellers.

All the members of the other four xenology teams were attempting to cling to something, if not to one another, in "C" deck's cramped passenger lounge—exhibiting an array of fear-filled eyes and apprehensive, down-drawn mouths. Xenologist Gerda Malmstrom, leader of the five-member team soon due to be dropped among Plumma IV's aborigines, glanced upward, blonde hair floating wildly bouffant in zero gee.

"What's gone sour?" demanded van Polder.

"It's a total power outage, Van. We're . . . dead in space." Ice-blue eyes luminous with concern, Gerda suddenly reflected upon her choice of words. "It's a helluva walk to the nearest filling station," she added lamely.

At that instant in *Tristan's* power room the ship's second astrogation officer hung back, watching with

anxious eyes as the chief engineer and his deputy sweated over the instrumentation displays of a curved, desk-like console. The chief was belted into the control chair; the deputy was stretched out in midair, head-downward. Reading the displays inverted was common practice.

"I just don't get it," drawled the younger engineer. "We have more than adequate plasma temp and flux density. Excitation levels and flow rates are holding up there in the green. How in blazes can *one* unit be down, let alone both?"

The chief engineer's grunt was caustic, his squint fixed, his expression puzzled. "Sure, everything's green," was his terse remark. "Except that not one lousy gigawatt is outputting from either tok."

"But that's . . . goofy! It's not possible."

"Read the power meters—and weep."

After a protracted silence made weighty by cogitation, the junior engineering officer tendered a suggestion. "Chief, what say we throw the Ops Manual on the viewer? We could reset, flush the lines, then start with Procedure 'G' and bring 'em back up from there. Who knows? Maybe the fuel's contaminated."

The older man wagged his head from side to side. "All seawater's contaminated, not to mention that it's also loaded with umpteen kinds of salts and other crud." He gestured with a despondent hand. "Look for yourself. The malfunction-detector circuits are one thousand per cent green. Computer says all filtration, deuterium-tritium

extraction and pumping elements are running smooth, normal—and eating *beaucoup* amp-hours of precious battery charge in the process, dammit! Uh-uh—we won't find the answer to this one in any manual."

"B-but. . . ." The other lapsed into frustrated silence.

The astrogation officer chewed his tongue. At last he summoned the courage to make his presence felt. "The, uh, skipper's itching for a status summary, Chief. The intercom system's out and I'm. . . What can I tell him?"

"Tell him we're working on it."

"I, er, doubt if that'll satisfy—"

"Tell him, Mister! Now boogie off. And for Chrissake, stay out of our hair."

"Aye, Chief." Tail between his legs, the astrogator boosted himself from the power room, dreading the thunder and lightning sure to descend upon his return to the conning bridge.

Minutes later the ship's surgeon appeared in the hatchway of "C" deck's passenger lounge. Looking stern, he searched out van Polder, beckoning with a solemn forefinger.

The doctor kept his voice confidentially low. "Van, better have your people gather together their outdoor clothing and stand by. Life support and the other essential subsystems are operating on emergency batteries. I've advised the captain to seal off all unnecessary compartments, then stabilize the remainder at plus twenty degrees 'F.' We have to ease the strain on those batteries."

"Twenty degrees below freezing?"

"Yep. Got to. The ship's radiat-

ing thermal energy pretty fast."

"I'm aware of the emergency, Doctor, but—"

"Have them get ready to bundle up," the medic interrupted with a tired voice. "Luckily you researchers have suitable heavy clothing on board, which is more than I can say for we poordevil crewmen. We'll just have to tough it out, I suppose."

"Doctor, our survival gear is stowed in the forward holds," pointed out the xenologist, "packed and cartoned for paradrop."

"Um-m-m." The doctor scratched an ear. "You'll simply have to dig it out then. Or else be very, very uncomfortable."

"For how long?"

"There's no way to even guess yet."

The xenologist frowned. "Come on, Doctor. The others can't overhear us. Is the failure catastrophic? You needn't spare me. I'd much rather know the truth."

"Catastrophic?" The medic sighed. "Just the opposite, I'm both happy and sorry to say. There seems to be nothing wrong with our fusion power system."

"I don't understand."

"Neither I nor anyone else does either." The doctor arched his brows quizzically. "Engineering is in a quandary, hopping about, chasing their tails. How does one repair a *non*-malfunction?"

Pondering this, the xenologist was startled when a ship's officer caromed into view and came flying down the passageway. He checked his headlong plunge, wide-eyed and out of breath.

"Dr. van Polder, the captain in-

sists. . . you come to the bridge at once. We, uh, have a. . . . You won't believe this, sir, but it's. . . . We have a visitor."

"A what?"

"Please, I know it sounds looney but it's true. Captain Dichter says to bring a linguist and w-whomever else. . . might be able to help."

Van Polder regarded the officer narrowly. "You mean we've made contact with another ship?"

"No, sir. Nothing's around us for. . . light-years."

"Then where, if I may ask, did this 'visitor' spring from?"

The officer, a polite, tow-headed German, looked embarrassed. "Only wish I knew, sir. Please come with me now. If you don't, the captain's orders are to, uh, drag you."

The xenologist resisted an impulse to laugh aloud. "That won't be necessary. I'm curious to see whether you've been exceeding your *Schnapps* ration or. . . ." He cast a glance over his shoulder. "Mash, Gerda, come along. The captain wants us on the bridge. If what this gentleman has been telling me is true, it could prove to be interesting."

* * *

And it was.

Utterly composed, the intruder stood erect, his back to the communications console. Seemingly he was a male Caucasian of indeterminate years. He wore the sky-blue tunic and ankle-gathered slacks of a watch officer. He was sandy-haired and dark-eyed, and he looked painfully ordinary in the dim light cast

by an emergency lamp just above the conning console. His feet were bare.

At first van Polder thought someone might be having a bit of fun at their expense but he soon dismissed the notion. The thick silence pervading the bridge, and the captain's attentive *mein*, precluded practical jokes. There was something about the intruder that looked oddly out of place. Try as he would, van Polder could not pin down what it was that bothered him most about the visitor's appearance.

Then it registered. The man appeared to be standing firmly on the deck matting in all defiance of zero gee. Without velcro-soled space boots, the posture seemed unnatural.

Backed by a dumb-struck assemblage of bridge officers, the aging captain did not take his eyes from the stranger, not even when the xenologist and his companions made their appearance.

"He was naked when he first appeared," Captain Dichter said in an unsteady voice.

"Naked?"

"As a jay," assured the captain. "After a moment, when he got a look at the rest of us, the uniform kind of. . . grew around him. What do you make of it?"

Van Polder swallowed with difficulty. "I'm not. . . sure. Have you learned anything else about him?"

"Negative. You now know precisely as much as the rest of us do."

"Has he said anything?"

"Not a syllable. He just stands there and stares. . . ."

"He shouldn't be able to stand,"

said van Polder.

"I . . . know."

Studying the intruder, van Polder was fascinated, almost mesmerized. He clutched the grab-rail surrounding the command pedestal until his knuckles whitened. "Mash," he said softly, "why not try talking to him?"

Mashbravatan licked his lips. "Glad to have a go if you think it possible. Wish I had a clue as to his, er—"

"Try *Lingua Stella*," urged the xenologist.

The linguist seemed surprised. "That's rather an odd choice for openers, but if you say so." He pulled himself hand-over-hand to the far side of the command pedestal until he was no more than six meters from the intruder, who continued to regard them with steadfast aplomb.

Mashbravatan addressed the stranger in carefully phrased interstellar trade patois, sounding somewhat hesitant and formal. His voice trailed off when the newcomer took a tentative step forward and closed his eyes.

Suddenly the linguist convulsed. He clapped both hands over his temples and tucked himself into the fetal position, performing a slow tumble in midair. Then he screamed.

As if released from a spell, everyone surged forward to help the thrashing linguist. There were numerous collisions. Van Polder noted a laser weapon in the security officer's hairy fist.

The intruder opened his eyes, holding one arm aloft. "An auditory coding system, of all things!"

he said, his Anglo-Terran pronunciation and diction a letter-perfect imitation of Mashbravatan's. "How dull of me not to have inferred it from the physical construction of your. . . . Forgive my clumsiness, sir. The intrusion was brief, but necessary. You see, I had no baseline from which to derive. Your discomfort will pass quickly."

Mashbravatan did recover fast. He managed to grasp an outstretched hand and let himself be drawn back to the relative safety of the grab-rail. "Quite," he said, looking dazed.

"You are responsible for intercepting my ship?" asked the captain. Even though born and bred in the Hartz Mountains, Klaus Dichter had earned a reputation for classic Prussian efficiency. His blood pressure was obviously soaring at the moment.

The intruder's regular features reflected dismay. "I do hope I haven't caused you too much inconvenience."

"Inconvenience!" Color heightened in the captain's neck. "We are indebted to you for much more than 'inconvenience,' sir. I've no idea what you've done, or why. But I must *insist* you restore our power system immediately."

"Why, you seem angry." The stranger sounded incredulous. "Was it reprehensible to impose my presence at this time, to pause and exchange acquaintances? I'd hoped we might sit down together and converse like gentlefolk, perhaps share a cup of. . . mead. Mead? No, that's an anachronism. Bear with me—I'm rather new at this. Ah, yes; coffee. Coffee, then."

Although bombastic and proud, Captain Dichter was by no means a stupid man. Eyes narrowed, he cocked his head in speculation. "We'll be delighted to offer you hospitality, sir, as soon as our power source is restored to operation. Without power, our atmosphere will become extremely cold. In fifty or sixty hours, when the emergency batteries are exhausted, we will all die."

"Really?" The stranger seemed genuinely perplexed. "One moment. Let me assure myself of something." He closed his eyes. "Oh, dear! Another foolish error. Again, I must ask your pardon. You'll think me dreadfully incompetent. I had assumed that your motive force. . . . No matter. Let us have light and heat, by all means. There! That's much more cozy."

Van Polder felt the tension ease. Beside him, Captain Dichter heaved a profound sigh of relief as glow panels lighted throughout the conning bridge and the life-support blowers speeded to provide a soft susurrant of moving air. Gradually pseudo-gee forces returned the group to the deck.

Captain Dichter seized the xenologist's arm. "By all that's holy," he whispered, "humor him, van Polder! Keep him talking. Find out how long he intends to detain us and why the devil he's *doing* these things. I'm going aft to the power room."

"Right, Captain. Will you have a messman serve coffee and cakes in the astrogators' lounge? Gerda, Mash and I will see what we can find out."

Dichter smacked his lips. "I pre-

sume you're thinking the same thing I am."

"About. . . him?"

"Um," nodded the captain. "We seem to have here a being several orders of magnitude beyond ourselves, van Polder. Since you're the expert when it comes to dealing with ET's, I leave him to you. But use extreme caution, please."

"We'll handle him with kid gloves."

Dichter blinked repeatedly. "Why, in God's name," he muttered, "did this have to happen on my ship?"

* * *

The intruder declined both food and drink, insisting that his earlier statement had been figurative. But scant time passed before van Polder began to appreciate the other's masterful penchant for dissimulation.

During the past hour he had managed a direct answer to exactly *one* question and the xenologist intuited even that to be salted with erudite sarcasm. Displaying considerable charm, Gerda Malmstrom had politely asked his name. The stranger had stared at her with peculiar intensity before making a reply. "Skuld," he had said with jovial emphasis. "Call me Skuld."

Van Polder's suspicion of sarcasm was based upon Gerda's swift intake of breath, her moué of surprise. The name had also jogged a mnemonic chord in his own subconscious.

Skuld had made much of the fact that they were research scientists—scholars, in his opinion, were to be held the noblest creatures in the

galaxy—bound for field research among “our flowering younger species,” as he had put it. His effusiveness reminded the xenologist of a holodrama scene he had once enjoyed wherein the hero delivered five minutes’ worth of nonsequiturs for the sole purpose of sidetracking three villains from participating in an incident crucial to the plot.

Then after Mashbravatan had excused himself in order to make himself more presentable and had returned with a combed beard and a freshly wrapped turban, Skuld had without preamble begun speaking to Mash in what the xenologist knew to be his native tongue, Bengali.

Like van Polder, Gerda had listened in a state of perplexity, while Mash’s swarthy countenance had lit with joy. The pair had happily jabbered together for minutes.

“Your friend possesses admirable command over a multiplicity of, er, languages,” had been Skuld’s compliment. “May I ask *your* specialty, Doctor van Polder?”

“Separating grain from chaff,” he had retorted, suddenly nettled.

“Grain from. . .” Skuld had closed his eyes. “Oh, yes, I see. As similes go, that’s a most interesting one.”

Not to be put off, van Polder had said, “Mr. Skuld, would you think it terribly presumptuous if I asked *your* specialty?”

“Why, not at all. I suppose I, too, think of myself as a scholar. And I love to go good deeds—good turns, if you will.”

“But, Mr. Skuld, we’ve learned nothing about you. Haven’t we the right to know why you have chosen to strand our vessel here?”

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Skuld had chuckled pleasantly. "Oh, no, not *Mr.* Skuld, if you please. Just. . . Skuld." Nor had he given the least acknowledgment of van Polder's direct question.

When Captain Dichter returned, all bustle and curiosity, Gerda and Skuld were deeply involved in a philosophical discussion. Van Polder could think of no graceful way to redirect the conversation toward more practical ends.

The captain listened for a moment, wearing an agonized squint. He shifted his weight in the divan, throwing the xenologist a questioning glance. Van Polder merely shrugged.

"I am thoroughly intrigued by your mechanistic interpretation of the universe," Skuld was saying, "and your place in it—your 'destiny,' as you put it. Isn't self-determinism a product of Humanity's total heritage? Consider the matter, Gerda. All that you are, or ever hope to be, is inextricably bound to an eons-long chain of genetically coded protein molecules stretching back to the first cellular creatures in your ancient seas."

But Gerda—practical Gerda—was not buying simplistic double-talk. "Are you suggesting that genetic conditioning, or my 'heritage' as you put it, makes me master of my fate?"

Skuld's lip curled. "To some extent," he replied, "—when all of the complex variables such as the trillions upon trillions of minds, or wills, of your ancestors are taken into account. The last is all-important: will."

"I certainly didn't 'will' myself into existence," said Gerda.

"Ah, but didn't you? I'm speaking now of the collective 'you.' My dear Gerda, do you imagine there would be a universe surrounding us had it not found existence within the minds—wills—of the myriad intelligences that inhabit it?"

"What? Why, that's reflexive, paradoxical nonsense," Gerda said, beginning to smile.

"Dear Gerda, perhaps you . . . have my number. Is that usage proper?"

"You call yourself Skuld," she said with a twinkle in her eye. "Where, if I may ask, are *Urthr* and *Verthandi*?"

Skuld seemed especially pleased. "Excellent!" he exclaimed. "We discover the true characteristics in any species by examining their early mythos. I imagine you do the same in your work, my dear. Nor do I consider myself quite as clever as I did a moment ago."

Captain Dichter had heard enough. He sat forward and *Har-rumphed!* with no-nonsense gusto. "Look here, Skuld. May we discuss our status? We've been drifting like some abandoned hulk for several hours. Now that you've, er. . . Now that power has been restored, I intend to move my ship. We have a schedule to meet, after all."

Skuld glanced at the repeater display, a readout of the ship's subjective timing system. "Where, O where, have the minutes fled? *Tempus fugit* and I must run."

Mouth dry, van Polder rose. "Not without some sort of explanation, I hope."

Skuld smiled sweetly. He bowed fluidly to Mashbravatan, bidding farewell in Bengali. Then he bowed

again to Gerda. "Every success in your endeavors, dear lady. I wish you well."

Tipping his head to van Polder, he said, "My seemingly mysterious actions and my reluctance to answer your questions have valid reasons. Easy answers would be of no value and might indeed cause harm. The principal answer will suggest itself to you shortly."

Skuld bowed finally to the captain. "*Wiedersehen, Herr Kapitän. Lebe wohl!*"

Skuld shimmered.

Then he disappeared.

A shocked stillness pervaded the astrologers' lounge. After an interval of pregnant silence, Mash said wonderingly, "Wasn't that *exciting*?"

Captain Dichter growled an obscenity. "You wouldn't think it exciting if *you* had to given an account of it in *your* mission report."

Ignoring the captain, Gerda said, "But who was he?"

"He told us," said van Polder dryly, meeting his colleague's troubled eyes. "Skuld. When you mentioned the other Fates, he seemed to be amused."

"I doubted that would get by you, Van."

"Of course it didn't. But Skuld mixed his genders; the Fates were feminine in both Greek and Norse myth."

"I say, what is all this?" demanded Mashbravatan, while the captain stepped back a pace, glowering.

"*Urthr*, the Past; *Verthandi*, the Present; and *Skuld*, the Future—the Norns, who spin the destiny of man." Gerda paused and

looked thoughtful. "*Skuld*, the Future, I wonder if that's significant."

Mash frowned. "He was simply putting us on?"

"He sure as hell was," replied van Polder. "That celestial con man toyed with us. He picked your brain at the outset, Mash; then Gerda's and probably mine and the captain's as well."

"His German was terrible," muttered Dichter.

"But why bother?" asked Gerda. "What did he gain from all this?"

With a shrug of his shoulders, the linguist surmised, "Simple curiosity about what might be flying past in the night, probably."

Van Polder grimaced. "That's as good an explanation as any I can come up with," he said, folding his arms. "We learned nothing, *nothing*; not even if he was truly aboard the ship."

"Or whether he's corporeal at all," put in Gerda.

"Rubbish!" Mashbravatan said.

"We saw him, heard him—"

"But did we *touch* him?"

Wearing a pained expression, Captain Dichter clapped his hands. "Enough! I suggest we forego shadow-chasing and get on with the mission. There will be plenty of time later for conjecture."

* * *

The captain's basso rumbled with authority. "Transition in fifty seconds. Will it be necessary to recompute, Aströgor?"

"Negative, sir. We're only about seven lights away. Our drift during shutdown was negligible. Request four or five minutes for sighting and re-alignment."

"Granted, Astrogator. Carry on." In an aside Dichter invited the three research scientists to remain on the conning deck. "I'd like a word with you once we're under way."

"Certainly, Captain."

A warning klaxon bellowed, flooding the bridge with sound. Seconds dribbled from a flashing digital display above the helmsman's console. On the designated track, *Tristan* went irrational. Van Polder felt the familiar gut-wrench queasiness of transition, the momentary "elevator effect" of partial weightlessness.

"Normality" returned; *Tristan's* thousands of deadweight metric tons now floated in the multidimensional neverland of n-space.

The larger astrogation tank lit up into a chaotic jumble of fiducial marks and esoteric symbology. Speckled throughout the tank were lambent, stereoperspective discs—star analogs—transduced from non-relativistic energies impinging at many times the speed of light upon the starship's external sensors. The astrogation reticule crept slowly through some five degrees of arc as the computer sought its objective. It locked in on a smallish circle of violet light—the primary of Plumma whence Gerda and her team were bound, an insignificant fifteenth-magnitude star as viewed from distant Sol.

Even as they watched, the violet circle in the reticule's crosshairs swelled, lightening in color to dark blue.

A scratchy voice from somewhere behind van Polder asked, "Now what in hell caused *that*?"

Captain Dichter stiffened. "Astrogator, check your alignment reference frame, please." He sounded perturbed.

"Aye, sir; checking." The officer bent over his console, punching one code after another. "Verified, Captain. Major sighting reference is Rho Puppis. N-spectral analysis confirmed. Apparent included angle five-point-seven-oh-nine-three degrees correlates to our objective. . . . Hey, Skipper, something's wrong!"

"My God!" Dichter jerked himself to his feet. Gingerly he stepped down from the command pedestal, staring into the astrogation tank as if hypnotized.

The reticule pinpointed a ballooning disc that was turning light blue. It faded slowly to pastel gray, filling the reticule's inner concentric rings.

"What is it?" asked van Polder, dreading the answer.

"Nova!" informed an awe-filled voice close at hand. "Maybe even a super. Too soon to tell."

The target disc waxed dull orange, growing. . . .

"As you were, Astrogator." Dichter turned away, popping a fist into his open palm. His eyes were hollow. "Secure your console, sir. Stand by to re-program." He glanced at the group of xenologists, not really seeing them. "Our n-space coordinates would have dumped us out a bare ninety diameters from that star—into cataclysm!"

"My abo society!" Gerda's hand flew to her throat.

"Gone, my dear. It's as if they had never existed."

In the strangling silence Mashbravatan touched van Polder's sleeve.

"There, but for Skuld, go we," he murmured. "I knew all along the fellow was sound, Van. No one who quotes the *Mahabharata* with

such divine elegance could be all con man."

Van Polder shivered. "And he called it. . . a good turn."

In two brief hours the deadly circle was purest white, still growing. . . . ★



science
fact:

A Step Farther Out

THE MORAL EQUIVALENT OF WAR

THERE ARE TIMES when I am certain I have lost my senses. I hear put forward, by supposedly sane and rational people, propositions so mindless that I doubt my sanity. Could I be *that* wrong?

One such experience happened while listening to the President's energy message to the people. Here was the President of the United States, a man who presumably can obtain the best advice from the world's most intelligent and informed people; and what I heard came out as nonsense.

After further study it still seems nonsense.

The best summary I've heard is quoted in *Access to Energy*, an excellent newsletter published by Dr.

Petr Beckmann of the University of Colorado (\$9.00 year, Box 2298, Boulder, Col. 80306; payment must accompany subscription order—highly recommended). In Beckmann's latest there is a quote from an independent oil producer: "I find it; I develop it; I operate it; I take all the risks; I get \$2.50/bbl.; the government gets \$8.25/bbl and the price to the consumer goes up."

That's an energy policy?

Now, were these enormous new taxes—the greatest tax increase in US peacetime history—to be applied to development of new energy resources, we would be involved in a sensible debate: should energy research be directed by the government, or left to private indus-

try? One might rationally take either side of the issue, and the disagreement would be "legitimate;" I would not have that mind-boggling sensation of hearing what seems nonsense.

But—in the President's speech for the better part of an hour, research was mentioned precisely *once*, and then only in passing. Fusion was mentioned not at all. Neither were Space Power Satellites. There was plenty talk of "windfall profits" to the oil companies but very little of why many major oil companies *love* the new policy: it eliminates all hope of competition. There was nothing about alternate fuel sources, reclamation of sewage, or agricultural research; nothing about geopressurized domes (of which more later).

Out in the fusion research laboratories they're laying off scientists as I write this.

President Carter has declared war on the energy crisis, and his first marching order was to disband the armored divisions.

* * *

So what might be a sensible energy policy? Understand, I don't claim to be the world's greatest expert on the subject; perhaps it's possible that Carter and Company can refute what I'm saying; but I do claim that what I propose makes sense, and on the evidence mine appears a better policy than the one we seem doomed to adopt—and I have heard no refutation, not even a discussion, from the "experts."

I say this up front because re-

cently I received an amazing letter from a professor in a state college. He had, it seems, been given a copy of one of my columns, and he wrote to tell me that he intended to use me as "an example of those who hold the view that since technology got us into our ecological dilemma, it can get us out of it." Then followed a rather imperious demand for my qualifications as an expert. I gather that creeping credentialism abounds at the professor's institution.

He signed himself as an "ecologist". That's just as well, since he can hardly call himself a logician. I cannot think where I have ever said anything as amazing as *that*! I don't accept that "technology got us into our ecological dilemma," and I certainly don't accept his syllogism. I tried to tell him in my reply that I am willing to discuss specific problems and specific technologies, but that evidently did not appeal to him, for he never answered. Perhaps I do not have the right credentials to engage in correspondence with an "ecologist."

* * *

The first job in forming an energy policy is to look at time spans and constraints. It makes no sense to put together a policy which insures a crunch a few years downstream.

Democracies have no very creditable record of planning for the future. Aristocracies and monarchies have sometimes worried about the next generation, simply because it's likely that the children of the ruling

class will have to live with the problems created by present governors. One might think this would apply to democracies as well, but so far that's been rare.

Yet: energy policy affects the future in an all-too-real sense. Unless we are willing to face massive cut-backs in our real standard of living, we must prepare for the future; and by "we" I mean *us*, those my age and those just coming of voting age, and by "the future" I mean *our* future.

It's a well-known fact that there was a "baby boom" in the late forties and early fifties. As a result we have a work force that's fairly large compared to the total population. This has resulted in relatively high unemployment among the young unskilled; but it has also enabled the work force to support everyone else. The Social Security program was never an actual insurance system; it always frankly depended on requiring the young workers to support the aged and retired—and even with the large numbers entering the work force over the past few years, Social Security is bankrupt.

What happens when the "baby-boom" children, those born between 1945 and 1955, retire? Who will support them? You see, the fertility rate in the US is quite low, below replacement; and for the next twenty years at least there *cannot* be much increase in the size of the work force. Even were we to have a new "baby boom" the effects on the work force would not be seen for nearly twenty years—and there are fallout detriments to a sudden increase in population. One suspects that a campaign to increase the

number of children per US family would not be an optimum solution.

But if the work force stays constant or decreases, and the number of retired greatly increases, what is the result? We've seen it already; people don't retire, they just get poor. Even ownership of a home does little to cushion the blow: property taxes are far higher than the mortgage payments, and Social Security and retirement income generally can't meet the tax bill and leave anything left over.

So: either the productivity per worker increases, or we have a hefty decline in real income for an increasingly large part of the population—and precisely that portion of the population which has time for political activities, and has been around long enough to have some idea of how the political system works.

What will the result of that be? There are a number of possibilities, none very pleasant. Probably the least unpleasant would be a backlash against "ecologists" and "concerned" people, the scrapping of conservation programs, and a crash program to increase productivity at any expense.

The alternative to waiting for the crunch is to plan for increased worker productivity; and that means to expand the energy supply. The productivity of the work force has always been dependent on the availability and price of energy.

Meanwhile, across the world there is a rising tide of demand: what, when I was in college, the professors called "the revolution of rising expectations." Some of those foreign beggars are actually de-

manding enough to eat! In many "developing" countries there is actually an expectation of development.

I suggest that it is much harder to raise real *per capita* income from \$100 a year to \$150 than to raise it from \$5000 to \$7500; that if it is to be done, it is likely to be done only with technology; and that takes energy. (It also makes it likely that the Western nations will grow even wealthier with respect to the poor ones; but see Matthew and the parable of the laborers in the vineyard on that. I should have thought it takes a twisted logic indeed to prefer an income of \$100 yearly while the West stays put, than to have 50 percent more while the West does the same.)

Well, all right; we'll have to have energy; but can't conservation do it? Or windmills? Or tide? Or magic?

No one seriously thinks so, and few say it except some "ecology" publications more dedicated to ideology than fact.

But can't we go back to the land? Conserve?

How? The productive land is in production; sending any large part of the population "back to the land" would simply reduce the amount of food available. There is land that is not economic to farm; but to suggest that we "retire" our poor and aged onto inadequate farmland requires a callous disregard for human values almost beyond belief. Subsistence farming on poor land is appealing only to hopeless romantics who haven't tried it. There may be a few who like that sort of thing; but politically it's an impossible solution, requiring

armies and police and the abrogation of democracy.

No. To provide for the non-working among us, both unemployed and aged, we need higher productivity; and that requires energy.

For the near term—say between now and the year 2000—there are only two certain sources of energy in the quantities we will need.

Coal and nuclear—and perhaps, just perhaps, a third, one just discovered which does not yet figure into anybody's energy estimates.

Coal has problems. For each 1000 megaWatts of coal-fired electrical plant, there is created each *second*: 600 pounds of CO₂, ten pounds of sulfur dioxide, 30 pounds of bottom and fly ash and a lot of other stuff.

If you prefer annual figures, that's nine million tons of CO₂, 157,000 tons of SO₂, and 474,000 tons of ashes; not to mention a million or so tons of sludges generated in the scrubbers. There is also put into the atmosphere considerably more radioactivity (in the form of radium and radon not removed by scrubbers) than a comparable nuclear plant releases.

Disposing of the wastes from coal-fired plants is not a simple problem. Meanwhile, by the year 2000, we will be ripping from the ground about nine billion tons of coal each year. That coal must be shipped about the country, and the number of miners and railroad workers killed each year will not be zero. The ashes and other wastes must also be shipped, and disposed of, and that's hardly a trivial activity either.

On purely humanitarian grounds, coal is inferior to nuclear power: the number of people killed per kiloWatt is about 100 times greater for coal than nuclear, when you examine the entire power cycle from mines to waste disposal; while the ratio with respect to members of the general public killed cannot be estimated, because no member of the public has ever been killed (or injured) by a nuclear power plant. As I write this, ironically, there lies on my desk an article about a bursting dam killing 31 people.

But we do have coal, and we can survive through its use; and if we get on with the job we can live with the result, hard cheese though it may be for miners with black lung (my wife's father died of silicosis). I would have thought, though, that those truly concerned for the environment would prefer the nuclear option.

Yet it's very hard to find any kind of rational discussion of nuclear energy.

Item: a science fiction writer friend, a lady I respect, called me the other day. She wanted a dramatic incident in a story. How, she asked, might a character cause a nuclear explosion—not a large one, just a little one—at the San Onofre nuclear plant?

I told her to have her character carry an atom bomb into the plant. It's the only way I know of. Beware of the guards, and recall that San Onofre is on a US Marine base. Where they get the atom bomb I don't know.

But— isn't there another way? Another lady, a radio broadcaster specializing in "conservation" and

"environment" and "concern" and the like was present at the discussion and was certain that San Onofre could be made to go up like a bomb. Just cut the cooling water supply.

She wasn't very interested in hearing of the actual engineering details of the plant—feedwater supply which could be used for emergency cooling; the emergency cooling system itself, etc. Nor was my sf writer friend, who went away disappointed and muttering about how she could fake it, since the public wouldn't know about all the safety precautions.

Item: A book published by the *Reader's Digest* and widely touted: *We Almost Lost Detroit*. Never mind that we didn't almost lose anything, at Detroit (where a couple of fuel elements of the Fermi research reactor melted, the safety devices worked as they should have, and everything shut down with neither disaster nor danger of one) or at Brown's Ferry (where a twit using a candle to search for leaks set insulation afire and caused the plant to be shut down in an orderly manner).

Item: a review of *We Almost Lost Detroit* published in the New York Times Book Review. Written by a staff lawyer for the American Civil Liberties Union, the review states "They knew what the public did not—a mistake could trigger a nuclear explosion." Do I need to repeat it? If a horde of terrorists had taken possession of Fermi reactor and used hammers and hacksaws they could not have triggered a nuclear explosion.

Item: the last time I said a kind

word about nuclear power, there came in the mail from a windmill experimenter a letter that opened with obscenities. When I wrote him to ask what contribution that made to the discussion, he said that I as a writer ought to understand that this was the only way he could express what he felt. He enclosed some more obscenities, presumably to deliver himself of more of his feelings; and did not seem to understand that I didn't invent the wind figures, nor are his "feelings" particularly important to the universe. I hope he sells lots of windmills, but he can't change the energy picture much by doing it.

(Incidentally, why he thought an old soldier would be shocked by anatomical obscenities is beyond me. Perhaps he thought my wife would open the mail—she sometimes does—and that he'd impress her? Unlikely. Despite my misgivings, Mrs. Pourmelle teaches in a juvenile detention facility, and I suspect she could, given enough provocation, shock the windmill designer out of his socks.)

Item: Jack Anderson, in a dazzling display of journalistic integrity, says in a recent column: "The clouds originate from six mammoth, cylindrical cooling towers that rise from the banks of the Ohio river like idols to the gods of energy. Superheated [sic] vapors from the nuclear works below form the clouds which appear so white and innocent. But they hang over the Shippingport like a pall. Beneath them is a dying town contaminated by . . . deadly irradiated mist."

Would you believe he's talking about Ohio river water trickled

down through cellotex? At the bottom of the tower there is a heat exchanger which connects with the condenser at the low-temp side of the turbines. No connection with the reactor at all, and the towers would be there whether Shippingport was fired by coal, oil, natural gas, or uranium; but you'd never know that from Anderson, who is terrified of fluffy white clouds composed of—water vapor and nothing else.

Item: *Time* Magazine's recent report on "The atom's global garbage," which states baldly that there is no technology for disposing of nuclear wastes. Evidently the editors of *Time* do not even read *Scientific American*, for in the June 1977 issue of *SA* there is a very complete article on the disposal of reactor wastes.

Look, can we once and for all dispose of the idiotic view that there is no place to put nuclear wastes? The technology is proven; they can be reduced to solids imbedded in glass. The total volume from the invention of the first reactor to the most optimistic (in my view) construction program of reactors extending to the year 2000 is a cube about 100 feet on a side; in fact, if the world ran off nuclear reactors exclusively, then in 50,000 years we could have enough wastes to cover about one square mile to a depth of six feet.

There are a lot of square miles of desert in this world; and at the lowest level of technology imaginable those wastes can be stored in concrete structures in the Mojave, where they are completely recoverable if needed—and they just might be.

In the early days of this century, oil companies distilled off only the higher-grade volatiles from crude. The resulting sludge was a mess, and it was expensive to get rid of. One oil company executive ordered the company's director of research to think of something better to do with crude sludge than simply storing it.

The result was the petrochemical industry: plastics, "coal-tar derivatives," and such. Think about that the next time someone mentions "nuclear wastes."

And as for plutonium, it's more valuable than gold; why should it be stored anywhere? The value of already-mined Uranium in this land is something like a *trillion* dollars, given that we go ahead with the breeder program—Except that we won't. However, the Soviets, French, Germans, British, and Japanese are already doing so. Perhaps we will export Uranium? Instead of using it to fuel our own reactors, we can sell Uranium and buy Arab oil. Marvellous.

Now I don't mean to imply that there is no such thing as intelligent opposition to nuclear power; but there is very little of that. The above is a far better illustration of the nuclear debate.

But, perhaps we will have to do without nuclear power, not on rational grounds, but because people are afraid? Not if you ask the people. The anti-nuclear forces have yet to win a major referendum—but there are fewer and fewer nuclear plants ordered, and our nuclear reactor industry is liquidating itself, because it takes 63—*sixty-three*—separate permits to construct

a nuclear plant, and very few companies can afford the delays and the legal fees required. As a means of subsidizing lawyers the present nuclear regulation system is well designed—but is there not perhaps a cheaper method of rewarding legal diligence?

It would probably be cheaper to give each law-school graduate a guaranteed salary of \$50,000 a year on the condition that he (or she) not practice law.

Incidentally, the total output of *Time* magazine for eight months takes up more space than would all our nuclear wastes from 1944 to the year 2000. (Figure courtesy of Petr Beckmann.)

Obviously, then, my "ideal" energy policy would remove a number of the constraints surrounding nuclear power plants. I would *not* relax the safety regulations, nor would I leave plant site location to "experts" without discussion; but surely the number of permits can be reduced to four or five, and the time required to get a permit cut from five-plus years to one year.

I would also do the same for coal; there is no reason why our fuels decisions should be made on the basis of regulatory difficulty and red tape, instead of economics. Utility companies, both public and private owned, have plenty of talent for deciding what kinds of plants they ought to build; why not let them employ it? But at the moment the Department of Energy will have a budget of \$10 billion, and very little of that will go into any kind of meaningful research.

★ ★ ★

Obviously a meaningful energy policy must do more than streamline the permit system. Coal and nuclear power can get us to the year 2000, and it's hard to see anything else that can; but no one genuinely loves either as a power source. Both have drawbacks, and I'm as aware of them as anyone. I would not care to leave my grandchildren the same problems I face.

What, then, should we do for the intermediate and long terms?

Well, first, you make certain there will be *something* that works, which is why I like nuclear power; it's a proven technology with, in my judgment, fewer problems than coal. But having insured there will be power, you look for better systems.

I think few would argue: one excellent power source is natural gas. Natural gas is a wonder fuel: it's clean, it is easily and economically transported, the distribution system (pipelines) already exists; it can be employed in a conservation strategy, that is, by decentralizing power generation so that on-site plants can provide both steam and electricity for major industries and compact bedroom communities. The only problem with gas is that we're running out it faster than of anything else (and, of course, it does produce CO₂ and add to the Earth's heat burden; more on that later.)

There may be a source of gas so large as to be nearly incredible. The estimated conventional reserves of natural gas in US fields is six billion cubic meters; and we'll run out far too soon, unless we find and develop more.

But that's conventional fields.

There are now known to exist "geopressure zones;" these are large pockets of water, at very high temperature and pressure, saturated with gas. I quote from the 1977 *Annual Review of Energy*:

"In the northern part of the Gulf of Mexico (onshore and offshore), the only area in the world where detailed studies of geopressure zones have been undertaken, an area of 375,000 km² is believed to contain a large belt of geopressure zones, some going down to a depth of 16,000 meters (16 kilometers). The large quantity of gas in this belt is estimated at 1,300 trillion cubic meters (roughly 1,800 billion metric tons coal equivalent, comparable to entire US coal resources); other estimates, such as the one of Dorfman at 160 trillion cubic meters, are more modest, but still impressive.

"Throughout the world, many geopressure zones of the depositional or the tectonic-occurrence types have been identified, but no estimates of their methane potential have been made. If appropriately tapped, the methane resources can provide, in addition to the natural gas dissolved, enormous amounts of mechanical and geothermal energies from the pressures in excess of 500 kg/cm² and temperatures above 200°C at depths of 6,000—7,000 meters."

There are also gas hydrates, known as "frozen natural gas", discovered by Soviet petroleum geologists in the last few years, and also investigated by the US exploration ship *Glomar Challenger*. The Soviets estimate—are you ready for this?—that one million trillion repeat, 10⁶ trillion cubic meters of

methane can be found in frozen reserves throughout the world's oceans.

The *Annual Review* adds "commercial recovery of gas from submarine hydrate is probably a very difficult task." This is why I do not put hydrates down as a near-term insurance fuel source; it is risky technology.

The same is true, but to a far lesser extent, for the geopressure zones. Drilling to six kilometers is difficult but has been done; extracting the dissolved gas from the pressurized water is again tricky, but involves off-the-shelf technology. Within a few years we could have plenty of natural gas.

If someone goes after it. The simplest way to develop this resource would be to decontrol the price of natural gas; our fuel bills would be higher (but no higher than they'll be after Carter's energy taxes!) and plenty of developers, motivated by good old reliable greed, will break their arses trying to get natural gas to sell.

Another way, one less preferable in my judgment but defensible, would be to have a government development program—which would in practice mean contracting with private firms to do the work, because the expertise exists outside ERDA, not in it.

What we're doing, though, is ignoring the whole situation in favor of taxes and a complicated income—redistribution scheme; and *that*, in my view, is mindless.

Perhaps Carter doesn't know about geopressure zones? But surely *someone* does. So why is this whole technology resource ignored

in the President's war on energy resources?

For the long term we cannot continue to rely on fossil fuels. There are perfectly legitimate conservation reasons—such as CO₂ buildup, and the overall heat balance of Earth—for looking to other energy sources, and probably the best way to have those taken into account is to plan *now* while someone still cares. Given our present war on energy, the day will soon dawn when no one will give a damn about conservation, and we will go crash program to strip mine coal, dig up pressurized gas, build nuclear plants, and to hell with the consequences. At the moment few, outside the "snow belt" during the Great Freeze of '76, have felt a real energy pinch; we are wealthy enough to give some thought for "the environment."

The poor—and that certainly includes those rich by world standards but poor compared to their own past—generally do not care about long-term consequences.

If we have a long-term goal of eliminating fossil fuels, there are only two ways to go: nuclear fusion, and some form of solar power.

Fusion has received short shrift from Carter exactly at the time when the most scientific progress has been made. The program moved ahead, they have made neutrons in reactors, and they are ready to move to breakeven, the point at which the experiment produces more power than it consumes—only


they need more equipment, and they need to keep their staffs together, and Carter's budget has provision for neither.

Obviously my "ideal" energy program restores the fusion budget at least to what President Ford recommended.

There are three ways to go with solar; Earth-based, space-based, and agricultural. The latter is a kind of Earth-based solar power accumulator, of course, but uses a different kind of expertise; biologists and agronomists rather than engineers and physicists.

Plants typically store up about 1 per cent of the sunlight energy that falls on them. A billion or so dollars doled out over the next few years could, in the judgment of people who have some right to an opinion, at least double that. I have insufficient data on which to judge, but I do point out that the risk is low—not very much money involved, compared to the welfare budget, and if done skillfully for a few dollars more an agricultural research program could be a part of a jobs program. And the payoff is very high. I quote Jonathan Swift: "Whoever could make two ears of corn, or two blades of grass, to grow where only one grew before, would deserve better of mankind than the whole race of politicians."

Some forms of Earth-based solar research get a good bit of money; but the technological risks are quite high, except in the small backyard "appropriate technology" applications. I have nothing against those—I shall probably install a form of solar heating system for my hot-water and office heaters—but



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they will not save us, and they are rather expensive. As a form of conservation they are excellent, but conservation is not the answer.

Still, Earth-based solar is one program with a long-term payoff that is treated about as it deserves to be. We shall see whether, when the payoff finally comes near, the "ecologists" and "concerned scientists" will not try to halt actual installations: after all, the solar constant is 1 kiloWatt per square meter, and to get 1,000 megaWatts one must cover *at least* a million square meters; probably a lot more, and this will go into the "fragile ecology" of the desert.

If the desert is too valuable to take up a few thousand square meters as nuclear waste storage, I wonder why it can be covered with little blue cells; but perhaps.

Finally, there is space-based solar power, a concept whose time seems to have come—except that it receives no mention in the President's declaration of the moral equivalent of war, nor has NASA got what anyone would consider adequate funding. I have discussed SPS systems in other columns. For my energy program I would give NASA an additional \$2 billion for booster development, thus insuring access to space; and fund at a few tens of millions feasibility studies of power satellite systems. Incidentally, the United States gives the World Bank \$2 billion a year, of which \$225 million goes directly for the salaries of McNamara and 374 other top executives; and if *that* \$225 million is well spent, surely some development of solar power satellites would be even more worthwhile?

I haven't even mentioned other schemes, such as the ocean thermal system I've described before. I haven't budgeted for garbage and trash (their potential is not great, about 5 per cent at best, but then no one seriously believes windmills can contribute much more than 5 per cent of the energy requirement, and windmills are getting lot of money). I haven't got far out and talked of mining the Moon, or building big space colonies.

I haven't spoken of airboats—you know, big plastic structures with sides about 500 meters high; you pump out the air and they will literally float on air; get them up in the jet stream and mount windmills on them, and send power down the tether cable. *That is* far out; although not impossible, and surely better than poverty or war.

But, curiously, nothing of this emerges from the President's battle plan. Despite the rhetoric about the obscene profits of the big oil companies, the President's moral equivalent of war has the effect of giving the big internationals a monopoly on our most vital need.

So on whom has Mr. Carter declared war?

★ ★ ★

For those who'd like to get in on a discussion of these and other matters, it isn't too late to send a dollar to the Los Angeles in '81 Committee, Los Angeles, CA 90005. For that you get membership in the LA in '81 Booster Club. The committee seeks to put on the World Science Fiction Convention in Los Angeles, and has promised as part of the program an uninterrupted panel/bull session on science fact, with participation by the audience, myself, and several invited scientists of far-out persuasions. The intent is to continue the discussion to such hour as all are satisfied or horizontal from exhaustion.

Maybe there, or somewhere, I'll hear some sensible reasons why my program wouldn't be better than President Carter's moral equivalent of war; because right now, Carter's program makes no sense to me at all. It cannot, so far as I can see, accomplish anything in the energy field; surely its impacts are greatest in incomes policies. And surely the President is not cynically presenting a tax policy disguised as a war on energy shortfall? I'd hate to believe that. ★

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KILLING VECTOR

These "kernels" carried in them seeds of death!

EVERYONE ON THE Control Stage found cause to be working aft when Yifter came on board. There was maximum security, of course, so no one could get really close without a good reason. Even so, we all took the best look we could manage—after all, you don't often have a chance to see a man who has killed a billion people.

Bryson, from the Planetary Coordinators' office, was at Yifter's elbow. The two men were not shackled together or anything melodramatic like that. Past a certain level of notoriety, criminals are treated with some deference, and even respect. Bryson and Yifter were talking together in a friendly way, although they were in the middle of a group of top-rank security men, all heavily armed and watchful. They were taking safety to extremes.

When I stepped forward to greet Bryson and his prisoner, two guards carefully frisked me before I could get within hand-kill range, and they stood close behind me when the introductions were made. I haven't been on Earth for a long time, and they must have known that I have no close relatives there; but they were taking no chances. Yifter was a prime target for personal revenge. A billion slain people leave a lot of friends and relatives behind.

From a distance of one meter Yifter's appearance did not match his reputation. He was of medium height, slightly built, with bushy, prematurely white hair and mild, sad eyes. He smiled at me in a tired, tolerant way as Bryson introduced us.

"I am sorry, Captain Roker," he said. "Your ship will be filled with strangers on this trip. I'll do my best to keep out of your way and let you do your job."

I hoped he could live up to his words. Since I took over the runs to Titan, I've carried most things in the connected set of cargo spheres that make up the Assembly. Apart from the kernels, and we carry a few of those on the outbound leg of every trip, we've had livestock, mega-crystals, the gravity simulator and the circus. That's right, the circus. It must have had a terrible agent, that's all I can say. I took it both ways, to Titan and back to L-5.

Even with all that, Yifter was still a novelty item. After he had been caught and the rest of the Lucies had gone underground, nobody had known quite what to do with him. He was Earth's hottest property, the natural target for a billion guns and knives. Until they decided how and when he would come to trial, they wanted him a long way from Earth. It was my job to deliver him to the Titan penal colony, and return him when they got themselves sorted out on Earth.

"I'll arrange for you and your guards to travel in a separate part of the Assembly," I said. "I assume that you will prefer privacy."

Yifter nodded agreeably, but Bry-

son wasn't having any.

"Captain Roker," he said, "let me remind you that Mr. Yifter has not been found guilty on any charge. On this journey, and until his trial, he will be treated with proper courtesy. I expect you to house both of us here in the Control Stage, and I expect that you will invite us to take our meals here with you."

In principle I could have told him to go and take a walk outside. As captain, I determined who would travel in the Control Stage and who would eat with me—and innocent people were not usually sent to the Titan penal colony, even before trial. On the other hand, Bryson was from the Planetary Coordinator's office, and even off-Earth that status carried weight.

I suppressed my first reaction and said quietly, "What about the guards?"

"They can travel in the Second Section, right behind the Control Stage," replied Bryson.

I shrugged. If he wanted to make nonsense of Earth's security efforts, that was his choice. Nothing had ever happened on any of my two-month runs from Earth to Titan, and Bryson was probably quite right; nothing would happen this time. On the other hand, it seemed like a damned silly charade to ship twenty-five guards to keep an eye on Yifter and then house them in a separate part of the Assembly.

Yifter, with an uncanny empathy, had read through my shrug. "Don't worry about security, Captain Roker," he said. He smiled again, that tired, soothing smile that began deep in his sad, brown eyes. "You

have my assurance, I will be a model prisoner."

He and Bryson walked on past me, into the main quarters. Was that really Yifter, the bogey-man, the notorious head of the Hallucinogenic Freedom League? It seemed hard to believe. Three months earlier, the Lucies—under Yifter's messianic direction—had planted hallucinogenic drugs in the water-supply lines of most of Earth's major cities. An eighth of the world's population had died in the resulting chaos. Starvation, epidemic, exposure and mindless combat had re-visited the Earth and exacted their age-old tribute. The monster who had conceived, planned and directed that horror was difficult to match with Yifter, the seemingly mild and placid man.

My thoughts were quickly diverted to more immediate practical matters. We had the final masses of all the cargo and it was time for the final balancing of the whole Assembly. One might assume that means just balancing the kernels correctly, since they out-mass everything else by a factor of a million. But each Section containing a kernel has an independent drive unit, powered by the kernel itself. We leave those on Titan and travel back light; but on the trip out, the dynamic balancing is quite tricky.

I reviewed the final configuration, then looked around for McAndrew. I wanted him to look over the balance calculations. It's my responsibility, but he's the kernel expert. I realized that he hadn't been present when Yifter came aboard. Presumably he was over on one of the other Sections, crooning over

his beloved power sources.

I found him in Section Seven. The Assembly is made up of a variable number of Sections, and there would be twelve on this trip, plus the Control Stage. Until we accelerate away from the Libration Colony station, all the Sections are physically connected—with actual cables—to each other and to the Control Stage. In flight, the coupling is done electromagnetically, and the drives for the powered Sections are all controlled by a computer on the Control Stage.

The Assembly looks like a small bunch of grapes, but the stalks are non-functional—there are no cables in the System that could take the strain, even at lowest acceleration. Moving among the spherical Sections when we're in flight is no easy task. It means we have to cut the drives and turn off the coupling between the Sections. That's why I thought the idea of having Yifter's guards in a different Section was so dumb; from there, they couldn't even reach the Control Stage when the drives were on.

I wanted McAndrew to check the configuration that we would hold in flight, to see if he agreed that the stresses were decently balanced among the different Sections. We never run near the limit on any of them but there's a certain pride of workmanship in getting them all approximately equal, and the stresses as low as possible.

He was standing on the ten-meter shield that surrounds the Section Seven kernel, peering through a long boresight pointed in toward the center. He was aware of my presence but did not move or speak

until the observation was complete. Finally he nodded in satisfaction, closed the boresight cap and turned to me.

"Just checking the optical scalars," he said. "Spun up nicely, this one. So, what can I do for you, Captain?"

I led him outside the second shield before I handed him the trim calculations. I know a kernel shield has never failed, but I'm still not comfortable when I get too close to one. I once asked McAndrew how he felt about working within ten meters of Hell, where you could actually feel the gravity gradient and the inertial dragging. He had looked at me with his little introspective smile and made a sort of throat-clearing noise—the only trace of his ancestry that I could ever find in him.

"Och," he said, "the shields are triply protected. They won't fail."

That would have reassured me, but then he had rubbed his high, balding forehead and added, "And if they do, it won't make any difference if you are ten meters away or five hundred. That kernel would radiate at about two gigawatts, most of it high-energy gammas."

The trouble was, he always had the facts right. When I first met McAndrew, seven years earlier, we were taking the first shipment of kernels out to Titan. He had showed up with them, and I had assumed that he was just another engineer—a good one, maybe, but I expected that. Five minutes of conversation with him told me that he had probably forgotten more about Kerr-Newman black holes—kernels—than I was ever likely to

learn. I have degrees in Electrical Engineering and Gravitational Engineering; in my job I have to, but I'm really no gravity specialist. I felt like an idiot after our first talk. I made a few inquiries and found that McAndrew was a full professor at the Penrose Institute, and probably the System's leading expert on space-time structure.

When we got to know each other better, I asked him why he would give up his job for four months of the year to ride herd on a bunch of kernels being shipped around the Solar System. It was a milk-run, with lots of time and very little to do. Most people would be bored silly.

"I need it," he said simply. "It's very nice to work with colleagues but in my line of business the real stuff is mostly worked out alone. And I can do experiments here that wouldn't be allowed back home."

After that I accepted his way of working and took vicarious pride in the stream of papers that appeared from McAndrew at the end of each Titan run. He was no trouble on the trips. He spent most of his time in the Sections carrying the kernels, only appearing in the Control Stage for his meals—and frequently missing them. He was a tinkerer as well as a theorist. Isaac Newton was his idol. His work had paid off in higher shielding efficiencies, better energy-extraction methods and more sensitive manipulation of the charged kernels. Each trip we had something new.

I left the trim calculations with him and he promised to look them over and give me his comments in an hour or two. I had to move

along and check the rest of the cargo.

"By the way," I said, elaborately casual as I turned to go, "we'll be having company for dinner on this trip. Bryson insists that Yifter should eat with us."

He stood quiet for a moment, head slightly bowed. Then he nodded and ran his hand over his sandy, receding hairline.

"That sounds like Bryson," he said. "Well, I doubt if Yifter will eat any of us for breakfast. I'm not sure he'll be any worse than the rest of you. I'll be there."

I breathed a small sigh of relief and left him. McAndrew, as I knew from experience, was the Compleat Pacifist. I had wanted to be sure that he could stand the idea of having meals with Yifter.

Four hours later all our checks were complete. I switched on the fields. The dull gray exterior of each Section turned to silver, shattering the sunlight and turning the Assembly to a cluster of brilliants. The cables linking the Sections were still in position but now they were hanging loose. All stresses had been picked up by the balancing fields.

In the Control Stage I gradually turned on the propulsion units of each powered Section. Plasma was fed through the ergosphere of each kernel, picked up energy and streamed aft. The relative positions of the Sections, Mössbauer-controlled to within fractions of a micrometer, held steady. Slowly we accelerated away from L-5 and began the long spiral of a continuous-impulse orbit to Titan.

My work was just about finished

until crossover time. The computers monitored the drive feeds, the accelerations and all the balance of the Sections. On this trip we had three units without operating drive units: Section Two, where Yifter's guards were housed, just behind the Control Stage; Section Seven, where McAndrew had taken the kernel out of commission for his usual endless and mysterious experiments; and, of course, the Control Stage itself.

I had made the mistake of asking McAndrew what experiments he was planning for this trip. He had looked at me with his innocent blue eyes and scribbled an answer full of twistor diagrams and spinor notations—knowing damn well that I wouldn't be able to follow it. He didn't like to talk about his work "half-cooked," as he put it.

* * *

I had been more worried than I wanted to admit about dinner on that first ship-evening. I knew we would all be itching to ask Yifter about the Lucies but there was no easy way to introduce the subject into the conversation. How could we do it? "By the way, I hear that you killed a billion people a few months ago. I wonder if you would like to say a few words on the subject. It would liven up the table-talk at dinner." I could foresee that our conversation might be a little strained.

As it turned out, my worries were unnecessary. The first impression that I'd had of Yifter, that of a mild and amiable man, strengthened on longer exposure. It was Bryson,

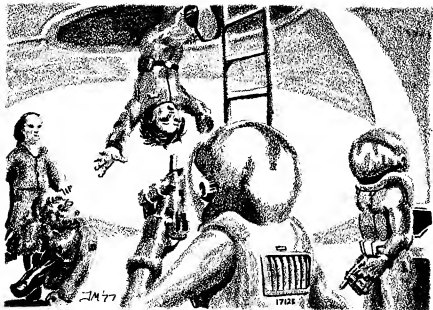
during dinner, who caused the first tricky moment.

"Most of Earth's problems are caused by the United Space Federation's influence," he said as the robo-server, always on best form at the beginning of the trip, rolled in the courses. "If it weren't for the U.S.F., there wouldn't be as much discontent and rioting on Earth. It's all relative—living space and living standards—and the U.S.F. sets a bad example. We can't compete."

According to Bryson, three million people were causing all the problems for seven billion—eight, before Yifter's handiwork. It was sheer nonsense and as a U.S.F. citizen, I should have been the one to bridle; but it was McAndrew who made a growling noise of disapproval, down in his throat; and it was Yifter, of all people, who sensed the atmosphere the quickest and deftly steered the conversation to another subject.

"I think Earth's worst problems are caused by the power shortage," he said. "That affects everything else. Why doesn't Earth use the kernels for power, the way the U.S.F. does?"

"Too afraid of an accident," replied McAndrew. His irritation evaporated immediately at the mention of his specialty. "If the shields ever failed, you would have a Kerr-Newman black hole sitting there, pumping out a thousand megawatts, mostly as high-energy radiation and fast particles. Worse than that, it would pull in free charge and become electrically neutral. As soon as that happened, there would be no way to hold it electromagnetically. It would sink down



and orbit inside the Earth. We couldn't afford to have that happen."

"But couldn't we use smaller kernels on Earth?" asked Yifter. "They would be less dangerous."

McAndrew shook his head. "It doesn't work that way. The smaller the black hole, the higher the effective temperature and the faster it radiates. You'd be better off with a much more massive black hole. But then you have the problem of supporting it against Earth's gravity. Even with the best electromagnetic control, anything that massive would sink down into the Earth."

"I suppose it wouldn't help to use a non-rotating, uncharged hole, either," said Yifter. "That might be easier to work with."

"A Schwarzschild hole?" McAndrew looked at him in dis-

gust. "Now, Mr. Yifter, you know better than that." He grew eloquent. "A Schwarzschild hole gives you no control at all. You can't get ahold of it electromagnetically. It just sits there spewing out energy all over the spectrum, and there's nothing you can do to change it—unless you want to charge it and spin it up and make it into a kernel. With the kernels now, you have control."

I tried to interrupt but McAndrew was just getting warmed up. "A Schwarzschild hole is like a naked flame," he went on. "A caveman's device. A kernel is *refined*, it's controllable. You can spin it up and store energy or you can use the ergosphere to pull energy out and spin it down. You can use the charge on it to move it about as you want. It's a real working instrument, not a bit

of crudity from the Dark Ages."

I shook my head and sighed in simulated despair. "McAndrew, you have an unconsummated love affair with those blasted kernels." I turned to Yifter and Bryson, who had watched McAndrew's outburst with some surprise. "He spends all his waking hours spinning those things up and down. All during the last trip he was working the kernels in gravitational focusing experiments. You know, using the fact that a gravity field bends light rays. He insists that one day we won't use lenses for optics—we'll focus light using arrays of kernels."

I made the old joke. "We hardly saw him on that trip. We were convinced that one day he'd get careless with the shields, fall into one of the kernels and really make a spectacle of himself."

They didn't get it. Yifter and Bryson looked at me blankly while McAndrew, who had heard it all ten times before, chuckled. We have the same sense of humor—a bad joke is always funny, even if it's the hundredth time you've heard it told.

It's a strange thing, but after the first half-hour I had stopped thinking of Yifter as our prisoner. I could understand now why Bryson had objected to the idea of surrounding Yifter with armed guards. I would have objected myself. He seemed the most civilized man in the group, with a warm personality and a very dry and subtle sense of humor.

When Bryson left the table, pleading a long day and a lack of familiarity with a space environment, Yifter, McAndrew and I

stayed on, chatting about the previous trips I had made to Titan. I mentioned the time I had taken the circus.

"Do you know, I'd never seen most of those animals before," I said. "They were all on the list of endangered species. I don't think you could find them on Earth any more, except in a circus or a zoo."

There was a moment of silence; then Yifter spoke. His eyes were mild and smiling, and his voice sounded dreamy and distant.

"Endangered species," he said. "That's the heart of it. Earth has no room for failures. The weaker species, like weaker specimens of a species, must be eliminated. Only the strong—the mentally strong—may survive. The weak must be culled, for our own sake; whether that means one tenth, one half, or nine tenths of the total."

There was a chilling pause. I looked at Yifter, whose expression had not changed, then at McAndrew, whose face reflected the horror that I was feeling. Yet behind all that, I could feel the unique power of the man. My mind was rejecting him but I still had a sense of well-being, of warmth in the pit of my stomach, as he was speaking.

"We have made a beginning," went on Yifter quietly. "Just a beginning. Last time we were less successful than I had hoped. We had a breakdown in the distribution system of the drugs. I managed to eliminate the responsible individuals but it was too late to correct the problem. Next time, God willing, it will be different."

He rose to his feet, white hair shining like silver, face beatific.

"Good night, Captain. Good night, Professor McAndrew. Sleep well."

After he had left, McAndrew and I sat and looked at each other for a long time. Finally he broke the spell.

"Now we know, Captain. We should have guessed it from the beginning. Mad as a hatter. The man's a raving lunatic. Completely psychotic."

That said most of it. McAndrew had used up all the good phrases. I nodded.

"But did you feel the strength in him?" went on McAndrew. "Like a big magnet."

I was glad that the penal colony was so far from Earth, and the avenues of communication so well-guarded. "Next time . . . it will be different."

Our two-month trip suddenly seemed to have doubled in length.

* * *

After that single chilling moment, there were no more shocks for some time. Our regular meal-time conversations continued, and on several occasions McAndrew voiced views on pacifism and the protection of human life. Each time I waited for Yifter's reply, expecting the worst. He never actually agreed with Mac—but neither did he come out with any statement that resembled his comments of the first ship-evening.

We soon settled into the ship-board routine. McAndrew spent less and less time in the Control Stage and more in Section Seven. On this trip he had brought a new set of equipment for his experiments, and

I was very curious to know what he was up to. He wouldn't tell. I had only one clue. Section Seven was drawing enormous energy from the other kernels in the rest of the Assembly. That energy could be going to only one place—into the kernel in Section Seven. I suspected that McAndrew must be spinning it up: making it closer to an "extreme" kernel, a Kerr-Newman black hole where the rotation energy matches the mass energy. I knew that couldn't be the whole story. McAndrew had spun up the kernels before, and he had told me that there was no direct way of getting a really extreme kernel; that would take an infinite amount of energy. This time he was doing something different. He insisted that Section Seven be off-limits to everybody.

I could not get him to talk about it. There would be a couple of seconds of silence from him, then he would stand there, cracking his finger joints as though he were snapping out a coded message to me. He could be a real sphinx when he chose.

Two weeks from Earth, we were drawing clear of the main Asteroid Belt. I had just about concluded that my worries for the trip were over when the radar reported another ship, closing slowly with us from astern. Its spectral signature identified it as the *Lesotho*, a cruise liner that usually ran trajectories in the Inner System. It was broadcasting a Mayday and flying free under zero drive power.

I thought about it for a moment, then posted Emergency Stations throughout the Assembly. The computed trajectory showed that we

would match velocities at a separation of three kilometers. That was incredibly close, far too close to be accidental. After closest approach, we would pull away again—we were still under power, accelerating outward, and would leave the *Lesotho* behind.

I was watching the displays, trying to decide whether or not to take the next step—shutting off the drives—when Bryson appeared, with Yifter just behind him.

"Captain Roker," he said in his usual imperious manner, "that's an Earth ship there, giving you a distress signal. Why aren't you doing anything about it?"

"If we wait just a few minutes," I said, "we'll be within spitting distance of her. I see no point in rushing in, not until we've had a good look at her. I can't think what an Inner System ship would be doing, free-falling out here beyond the Belt."

That didn't cool him. "Can't you recognize an emergency when you see one?" he asked. "If you won't do something productive with your people, I'll do something with mine."

I wondered what he wanted me to do, but he walked away without saying anything more and went down the stairs that led to the rear communications area of the Control Stage. I turned back to the displays. The *Lesotho* was closing on us steadily, and now I could see that her locks were open. I cut our propulsion to zero and switched off all the drives. The other ship was tumbling slowly, drive lifeless and aft nacelles crumpled. Even from this distance I could see that she

would need extensive repairs before she could function again.

I was beginning to think that I had been over-cautious when two things happened. Yifter's guards, who had been housed behind the Control Stage in Section Two, began to float into view on the viewing screen that pointed toward the *Lesotho*. They were all in space armor and heavily weaponed. At the same time two suited figures appeared in the open forward lock of the other vessel. I cut in the suit frequencies on our main board.

"... shield failure," said the receiver. "Twenty-seven survivors, and bad injuries. We must have pain-killers, medical help, water, food, oxygen and power-packs."

With that, one group of our guards outside began to move toward the two suited figures in the *Lesotho*'s lock, while the remainder stayed close to the Assembly, looking across at the other ship. Subconsciously I noted the number of our guards in each party, then gave them my full attention and did a rapid re-count. Twenty-five. All our guards. I swore and cut in the transmitter.

"Sergeant, get half of those men back inside the Assembly shields. This is Captain Roker. I'm overriding any other orders you may have received. Get the nearer party—"

I was interrupted. The display screen flashed blue-white, then overloaded. The whole Control Stage rang like a great bell as something slapped hard on the outer shield. I knew what it was: a huge pulse of hard radiation and highly energetic particles, smashing into us in a frac-

tion of a microsecond.

Yifter had been floating within a couple of meters of me, watching the screens. He put his hand to the wall to orient himself as the Control Stage vibrated violently. "What was that?"

"Thermonuclear explosion," I said shortly. "Hundred megaton plus. On the *Lesotho*."

All the screens on that side were dead. I activated the standby system. The *Lesotho* had vanished. The guards had vanished with it, vaporized instantly. All the cables linking the parts of the Assembly, all the scanners and sensors that were not protected behind the shields, were gone. The Sections themselves were intact but their coupling fields would have to be completely re-calibrated. We would not be arriving at Titan on schedule.

I looked again at Yifter. His face was now calm and thoughtful. He seemed to be waiting, listening expectantly. For what? If the *Lesotho* had been a suicide mission, manned by volunteers who sought revenge on Yifter, it hadn't had a chance. They couldn't destroy the Assembly, or get at Yifter. If revenge were not the purpose, what was?

I ran through in my mind the events of the past hour. With the drives switched off in the Assembly, we had an unprotected blind spot dead astern. We had been putting all our attention on the *Lesotho*. Now, with all the guards dead, the Control Stage was undefended.

It was quicker to go aft and take a look than to call Bryson and McAndrew and ask them what they could see from the rear viewing

screens of the Control Stage. Leaving Yifter, I dived head-first down the stairway—a risky maneuver if there were any chance that the drive might come back on; but I was sure it could not.

It took me about thirty seconds to travel the length of the Control Stage. By the time that I was halfway there, I knew I had been thinking much too slowly. I heard the clang of a lock, a shout, and the sputtering crackle of a hand laser against solid metal. When I got to the rear compartment, it was all finished.

Bryson, pale and open-mouthed, was floating against one wall. He seemed unhurt. McAndrew had fared less well. He was ten meters further along, curled into a fetal ball. Floating near him I saw a family of four stubby pink worms with red-brown heads, still unclenching with muscle spasm. I could also see the deep burn on his side and chest, and his right hand, from which a laser had neatly clipped the fingers and cauterized the wound instantly as it did so. At the far end of the room, braced against the wall, were five suited figures, all well-armed.

Heroics would serve no purpose. I spread my arms wide to show that I was not carrying a weapon, and one of the newcomers pushed off from the wall and floated past me, heading toward the front of the Control Stage. I moved over to McAndrew and inspected his wounds. They looked bad, but not fatal. Fortunately laser wounds are usually very clean. I could see that we would have problems with his lung unless we treated him quickly. A lobe had been penetrated and his

breathing was slowly breaking the seal of crisped tissue the laser had made. Blood was beginning to well through and stain his clothing.

McAndrew's forehead was beaded with sweat. As the shock of his wounds wore off, the pain was beginning. I pointed to the medical belt of one of the invaders, who nodded and tossed an ampoule across to me. I injected McAndrew intravenously at the big vein inside his right elbow.

The figure that had pushed past me was returning, followed by Yifter. The face-plate of the suit was now open, revealing a dark-haired woman in her early thirties. She looked casually at the scene, nodded at last and turned back to Yifter.

"Everything is under control here," she said, "but we'll have to take a Section from the Assembly. The ship we were following in caught some of the blast from the *Lesotho*, and it's no good for powered flight now."

Yifter shook his head reprovingly. "Impatient as usual, Akhtar. I'll bet you were just too eager to get here. You must learn patience if you are to be of maximum value to us, my dear. Where did you leave the main group?"

"A few hours' drive inward from here. We have waited for your rescue before making any plans for the next phase."

Yifter, calm as ever, nodded approvingly. "The right decision. We can take a Section without difficulty. Most of them contain their own drives but some are less effective than others."

He turned to me, smiling gently.

"Captain Roker, which Section is the best equipped to carry us away from the Assembly? As you see, it is time for us to leave you and rejoin our colleagues."

His calm was worse than any number of threats. I floated next to McAndrew, trying to think of some way that we could delay or impede the Lucies' escape. It might take days for a rescue party to reach us. In that time Yifter and his followers could be anywhere.

I hesitated. Yifter waited. "Come now," he said at last. "I'm sure you are as eager as I am to avoid any further annoyance—" He moved his hand, just a little, to indicate McAndrew and Bryson, "—for your friends."

I shrugged. All the Sections contained emergency life-support systems, more than enough for a trip of a few hours. Section Two, where the guards had been housed, lacked a full, independent drive unit, but it was still capable of propulsion. I thought it might slow their escape enough for us to somehow track it.

"Section Two should be adequate," I said. "It housed your guards in comfort. Those poor devils certainly have no need for it now."

I paused. Beside me, McAndrew was painfully straightening from his contorted position. The drugs were beginning to work. He coughed, and red globules floated away across the room. That lung needed attention.

"No," he said faintly. "Not Two, Yifter. Seven. Section Seven."

He paused and coughed again, while I looked at him in surprise.

"Seven," he said at last. He looked at me. "No killing, Captain. No . . . killing vector."

The woman was listening closely. She regarded both of us suspiciously. "What was all that about?"

My mouth was gaping open, as wide as Bryson's. I had caught an idea of what McAndrew was trying to tell me but I didn't want to say it. Fortunately I was helped out by Yifter himself.

"No killing," he said. "My dear, you have to understand that Professor McAndrew is a devoted pacifist—and carrying his principles through admirably. He doesn't want to see any further killing. I think I can agree with that, for the present."

He looked at me and shook his head. "I won't inquire what dangers and drawbacks Section Two might contain, Captain . . . though I do seem to recall that it lacks a decent drive unit. I think we'll follow the Professor's advice and take Section Seven. Akhtar is a very competent engineer and I'm sure she'll have no trouble coupling the drive to the kernel."

He looked at us with a strange expression. If it didn't sound so peculiar, I'd describe it as wistful. "I shall miss our conversations," he said, "but I must say goodbye now. I hope that Professor McAndrew will recover. He is one of the strong—unless he allows himself to be killed by his unfortunate pacifist fancies. We may not meet again, but I am sure that you will be hearing about us in the next few months."

They left. McAndrew, Bryson and I watched the screens in silence

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as the Lucies made their way over to Section Seven and entered it. Once they were inside, I went over to McAndrew and took him by the left arm.

"Come on," I said. "We have to get a patch on that lung."

He shook his head weakly. "Not yet. It can wait a few minutes. After that it might not be necessary."

His forehead was beading with sweat again, and this time it was not from pain. I felt my own tension mounting steadily. We stayed by the display screen and as the seconds ticked away, my forehead began also to film with perspiration. We did not speak. I had one question, but I was terribly afraid of the answer I might get. I think that Bryson spoke to both of us several times. I have no idea of what he said.

Finally a pale nimbus grew at the rear of the Section Seven drive unit.

"Now," said McAndrew, "he's going to tap the kernel."

I stopped breathing. There was a

pause of a few seconds, stretching to infinity; then the image on the screen rippled slightly. Suddenly we could see stars shining through that area. Section Seven was gone, vanished, leaving no sign that it had ever existed.

McAndrew took in a long, pained breath, wincing as his injured lung expanded. Somehow he managed a little smile.

"Well now," he said. "That answers a theoretical question that I've had on my mind for some time."

I could breathe again too. "I didn't know what was going to happen there," I said. "I was afraid all the energy might come out of that kernel in one go."

McAndrew nodded. "To be honest, the same thought was in my head. At this range the shields would have been useless. We would have gone like last year's lovers."

Bryson had been watching the whole thing in confusion. We had been ignoring him completely. At last, pale and irritable, he spoke to us again.

"What are you two talking about? And what has happened to the Section with Yifter in it? I was watching on the screen; then it just seemed to disappear."

"McAndrew tried to tell us earlier," I said. "But he didn't want the Lucies to know what he was getting at. He had been fiddling with the kernel in that Section. You heard what he said—no killing vector. I don't know what he did but he fixed it so that the kernel in Section Seven had no killing vector."

"I'm sure he did," said Bryson tartly. "Now perhaps you'll tell me

what a killing vector is."

"Well, Mac could tell you a lot better than I can. But a killing vector is a standard sort of thing in relativity . . . I guess you never had any training in that. You get a killing vector when a region of space-time has some sort of symmetry—say, about an axis of spin. And every sort of black hole, every sort of kernel we've ever encountered before, has at least one symmetry of that type. So if McAndrew had changed the kernel and made it into something with no killing vector, it's like no kernel we've ever seen. Right, Mac?"

He looked dreamy. The drugs had taken hold. "I took it past the extreme Kerr-Newman form," he said. "Put it into a different form, metastable equilibrium. Event horizon had disappeared; all the killing vectors had disappeared."

"Christ!" I hadn't expected that. "No event horizon? Doesn't that mean that you get—?"

McAndrew was still nodding, his pupils dilated. "—a naked singularity. That's right, Captain. I had a singularity sitting there in equilibrium in Section Seven. You don't get there by spinning-up . . . need different method." His speech was slurring, as though his tongue were swollen. "Didn't know what would happen if somebody tried to tap it, to use for a drive. Either the signature of space-time there would change, from three space dimensions and one time to two space and two time. Or we might see the System's biggest explosion. All the mass coming out as radiation, in one flash."

It was slowly dawning on Bryson

what we were saying. "But just where is Yifter now?" he asked.

"Gone a long way," I said. "Right out of this universe."

"And he can't be brought back?" asked Bryson.

"I hope not." I had seen more than enough of Yifter.

"But I'm supposed to deliver him safely to Titan," said Bryson. "I'm responsible for his safe passage. What am I going to tell the Planetary Coordinators?"

I didn't have too much sympathy. I was busy looking at McAndrew's wounds. The fingers could be regenerated, using the bio-feedback equipment on Titan, but the lung would need watching. It was still bleeding a little.

"Tell them you had a very singular experience," I said. McAndrew grunted as I probed the deep cut in

his side. "Sorry, Mac. Have to do it. You know, you've ruined your reputation forever as far as I'm concerned. I thought you were a pacifist. All that preaching at us, then you send Yifter and his lot all the way to Hell—and good riddance to them."

McAndrew was drifting far away on his big dose of pain-killer. He half-winked at me and made his curious throat-clearing noise.

"Och, I'm a pacifist all right. We pacifists have to look after each other. How could we ever hope for peace with people like Yifter around to stir up trouble? There's a bunch more of them, a few hours' travel behind us. Fix me up quick. I should be tinkering with the other kernels a bit, just in case the other Lucies decide to pay us a visit later. . . ."

★





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For two thousand years the mri species has supported itself by hiring out its warrior-caste, the Kel, to the regul species as guards and mercenaries.

Forty-three years ago the regul went to war against humankind, and the regul doch, or Association of Holn, launched mri mercenaries into that conflict. The mri lost, due to their declining numbers and due also to regul control of strategy. The mri homeworld of Nisren was destroyed, and world after world has fallen to humanity until only remote Kesrith remains mri. It is now called homeworld for the mri forces scattered throughout space, but its present mri inhabitants number only thirteen: the she'pan, Intel, who rules; two of Sen-caste, the scholars; and ten kel'eiu, or warriors.

In the peace negotiations Holn is replaced in command by doch Alagn, and in the resulting treaty Kesrith is traded to humanity. Evacuation of regul personnel from Kesrith begins in frantic haste.

But the thirteen mri sit firm, ignored by the fleeing Holn; and the youngest kel'en, Niun, is full of bitterness for their fate. Nine of the kel'eiu are old, masters of their caste; Niun alone—last son of the mri, the People, as they call themselves—has been forbidden to go into space. He has prepared all his life for this war; now his world is being taken, and still he is forbidden to seek a kel'en's employment with the regul. His truesister Melein, of Sen-caste, tries to intercede for him, reminding Intel of the bitter quarrel between Niun and his cousin Medai, who was sent in

honor to the war, while Niun was held at home.

Intel will not be persuaded, and Niun is again forbidden to leave Kesrith.

* * *

Elsewhere in Kesrith's system a ship is incoming: The doch Alagn elder, Hulagh Alagn-ni, is bringing in two humans—Stavros, governor-to-be of human Kesrith, and his aide, Sten Duncan, a Surface Tactical operative.

Considerable physical differences separate regul and human. The regul's immature phase alone is immobile, while their adult phase confines them to reliance upon prosthetic devices. But the mental differences are more extreme. The regul learn at a single hearing and cannot forget. They were at disadvantage in war . . . but they trust in their mental superiority and reckon to ultimately outmaneuver the two human observers. Stavros obeys the rigid schedule of movements permitted them aboard ship, but his aide strays and finds himself face to face with a mri kel'en . . . who says simply, "I am kel Medai," and adds: "We should not have met."

Regul separate them, mri and human, and Duncan and Stavros are confined strictly to quarters until landing at Kesrith.

And after landing they are taken to the Nom, regul headquarters, under a heavy guard ostensibly for their protection, while Medai's body is taken by a regul delegation to the edun, the House of the mri.

Suicide is the given cause of Medai's death, suicide occasioned

by long brooding over the loss of the war and by Hulagh's ban on personnel leaving the ship. The mri Kel accepts the body, and as the kel'en next of kin, Niun sits the death-watch alone in the Shrine. There Melein appears, to tell him that Intel wants him upstairs.

Niun, blaming Intel for the policies that have caused himself and Medai such grief, refuses the order, insisting that he will see Medai buried, with full honors, in the distant desert tombs. Melein leaves in anger.

And during that long watch, Niun finds himself confronted by a scarred, starved dus, one of the great quadrupeds, native to Kesrith, that have lived with the mri and gone to war with them for all known time. The beast is half-blind with the secretions of miuk, the madness that sometimes possesses them. Niun expects to be killed, but the beast retreats, to lie at the door outside the edun.

Then Niun recognizes it—the dus that had gone to war with Medai, returned abused and starved and far into a madness that would have been days in the making.

The mri were not, then, given all the truth concerning Medai's death.

VIII

NIUN HAD BEGUN, before the others had even stirred, to prepare for the journey to Sil'athen. There was the water drawn and the ritual store of food, a token only, and the real provisions that were for the living.

With much effort he took the body of Medai from the small

Shrine and bound it with cords to the regul litter on which it had come. The dus that waited by the doorway saw but paid no heed to what he did.

Then the others began to come: Eddan and Pasev and Dahacha and the rest of the Kel. The dusei came down too, and the miuk'ko by the door withdrew a space. There in the sunlight it subsided, massive head between its paws, sides heaving. It was deep in shock.

"Miuk," murmured Debas, horrified to see what sat at their gates.

But Pasev, who was, despite the fact that she had killed many humans, a gentle soul, went closer and tried to call to it, staying out of its reach. It reared aside with a plaint of rage and sank down again a little distance away, exhausted by the effort. The dusei of the edun drew aside from it, agitated, sensing the distress of their fellow and the danger he posed. They formed a tight knot about the Kel, and the guard-dus commenced that circling action, protecting the Kel from the threat of the rogue.

And eyes were on Niun, questioning. He shrugged and picked up the ropes of Medai's improvised sled.

"It came," he said, "into the Shrine last night." He looked at Eddan. "It was hunting someone."

And he saw the ugly surmise that leaped into the Kel'anth's eyes: a wise man, Eddan, if he were not kel'en. And quietly Eddan turned and gestured to Pasev, to Liran and Debas and Lieth.

"Stay here," he said. "Guard the she'pan."

"Eddan," said Pasev, the she'pan forbade—

"Any who wish to stay besides these may stay. Guard the she'pan, Pasev."

And Niun, not waiting for them, started out, knowing already by the resistance of the sled that he was going to pay dearly for his obstinacy, unyielding when the she'pan and all the rest had given him a way to escape this kinsman's duty.

Slowly, painfully, the *miuk'ko* heaved itself up and tried to follow the sled. It went only as far as the roadway and there sank down, exhausted, at the end of its strength.

The other dusei flanked it, one still pacing between the dus and the remaining Kel, watching the rogue. They did not follow the burial party. They were not wanted. They guarded the edun.

And Eddan and the other kel'ein overtook Niun on the slope that led to the hills and offered their hands to the rope. He did not object to this. He felt pained that they must make this gesture, showing him their fellowship, as if it needed be shown.

He veiled himself, one-handed, lowered the visor, already conserving the moisture his panting breaths tended to waste. He had taken along more than the usual quota of water, knowing the toll the journey would exact of them. One did not work on Kesrith: This was for youngling regul and for regul machines. Without proper caution, exertion would wring the moisture from the body and bring hemorrhage.

But none of them said the obvious, that the journey was ill-advised.

Never had the Kel defied the Mother, never directly.

And it came to Niun then that the Mother had had recourse available: She might have summarily ordered Eddan. She had not done this.

Uncharitably he attributed her thoughts not to love but to the drinking again of *komal*, wherefore she could not be awakened when Melein had taken his refusal back to her. Such was Intel, she'pan of Kesrith. It had happened before.

He held to this irreverent anger, refusing to believe that she had relented, for this, at least, had never happened before, not in all the years that he had made requests of her. He did not think that she would begin, now that he defied her.

He refused to repent his stubbornness even when the trail grew steeper and the rocks tormented his feet and the air came like cold fire into his lungs.

In the sky the regul ships continued to come and go, their speed making mock of the slow agony of the small figures of mri—ships carrying more and more of regul-kind into refuge before humans should come and claim the world.

* * *

The trail to Sil'athen was no trail but a way remembered by all mri that had ever walked it. There was no real trace of a path among the rocks save that the way was devoid of large obstacles and tended to run from landmark to landmark. Niun knew it, for burials had been common enough his his life, although he had never seen the ceremonies surrounding a birth. He had been too young for Melein's. He drew on the sled's ropes alone now, follow-

ing after Eddan's tall, slim figure. He wrestled the sled along among the small rocks until he had to wrap a fold of his robes about his torn hands to save them. His breath came hard and his lungs ached; he was accustomed to weapons-work, not to labor like tsi'mri; and every few paces of altitude gained made breathing that much more difficult.

"Niun," one and another of the brothers would say, "Let me take it a time." But he shook off their offering hands. Only the oldest—save Pasev, whom Eddan had placed in command back at the edun—had come on this trek. His conscience tormented him now, lest his stubbornness might prove the death of one of these brave old men. And surely, he thought, the she'pan had foreseen this and he had been too blind with his own self-importance to consider that her reasons might not have involved him. He had thought the worst of Medai and repented it now; it began to dawn on him that he might have been mistaken in other things.

But it would shame these men now, having begun, to turn back. He had brought them out here, he with his stubborn pride; he welcomed the pain that drove clear thought from his mind, atonement for his pettiness against them, against the dead. Medai had been no coward, no man light-of-thought. Niun was certain of that now, certain that his cousin had held strong for a long time, strong against the perfidy of his masters, against the Gods knew what else.

And why these things had been: This was still beyond him.

"Eddan," he said quietly when

they rested in the shadow of a high crag, the sand beyond them rippling in the ruddy light of Arain's zenith. A burrower had his lair out on the flat beyond. Niun had seen it pock the surface, the sand funnelling down as the creature reacted to the breeze, thinking it had prey.

"Ai?"

"I think you believe Medai's death was not as the regul said."

Eddan, veiled, moved his hand, a gesture that agreed.

"I think," Niun continued, "that the Kel has already discussed this, and that I was probably the only one in the Kel who was surprised to find that so."

Eddan looked at him long. The membrane nictitated across his eyes, flashed clear again. "Niun," he said, "that is an uncharitable thing, to assume that we would willfully exclude you from our thoughts in such a matter."

"But perhaps it is so, sir. Perhaps you had reasons."

Eddan's hand closed on Niun's wrist, a hard grip. Eddan had taught him the yin'ein; there was none more skillful than Eddan and Pasev, able to divide a man body from soul with delicacy; one could not see the blade move. And the strength was still in his hand.

"Do not look to serve regul, Niun s'Intel Zain-Abrin. You serve the she'pan, and one day you will be in my place. I think that day is coming soon."

"If I should become Kel'anth," said Niun, turning cold at the words of omen, and unsure what he meant by that, "it will be a very small Kel. Everyone else is senior to me."

"You will have your honor, Niun. There was never doubt of this in our minds, only in yours. It will come."

Niun was disturbed to the heart by the deadly urgency of the words, at Eddan's pressing this upon him. "I have never fought," he objected. "How am I fit for anything?"

Eddan shrugged again. "We are the Hand; others do the planning. But be assured that you have a use and that the she'pan has planned for it. Remember that. Medai was considered and rejected. Remember that too."

Niun sat stunned, all his surmises torn down and laid waste at once. "Sir," he said, but Eddan thrust away from him and rose, turning his face from him, making it plain that he wanted no further question on the matter. Niun too rose to his feet, seeking some way to ask, letting his hand fall, helpless. When Eddan would not answer, he would not answer, and quite probably Eddan had said all he could say, all that he knew to say.

The she'pan is well-pleased with his death, Melein had said; the coldness of that still chilled him. And: *Medai was considered and rejected*, Eddan had told him.

For the first time in his life he pitied his cousin; for he saw everything turned inside out.

Himself, in his youthful jealousy, suspicious of Medai, whose crime had been only that he had looked on Melein, for whom the she'pan had planned otherwise. Kesrith was a hard and unforgiving world. The Mother of Kesrith was one with her world, without mercies.

His own stubbornness had run

counter to her will. He had defied her, knowing nothing of her reasons. He had done a thing that kel'ein did not do and, further, tested her resolve to stop him, at a time when the People could least afford division.

It was possible, he thought, that not alone had the regul killed Medai—that the she'pan, and even Melein, had had a part in it.

He pitied Medai, fearing for himself. He would have wished to have spoken with his cousin, both of them men now, and to have learned of Medai the things Eddan could not tell him. He looked at the black-shrouded form on the litter as he took up the ropes again and found that all his confidences had left him.

He need not have been alone these years, he thought suddenly, and Medai need not have died, and so many things need not have happened, had he not made the she'pan choose between them.

It was not alone the regul that had killed Medai.

It was evening when they reached the holy place, the cliffs, the windy recesses where the caves of Sil'athen hid the dead of the People that had died away from sun-burial. There were many, many graves, the oldest dating from times before Kesrith had known regul, the latest holding those that had been born on Nisren and had fled here for refuge.

The valley formed a long retreat between the cliffs that marked a new level of the uplands. Here the sands were red, in contrast to the pale lowlands, and the ruddy rock was banded in places with white. Where rock had formed a hard cap,

erosion by wind and burning rains had made strange pillars and hulking shapes that guarded the way through Sil'athen, casting strange shadows in the setting light of ruddy Arain. A windflower occupied one of the crags; its tendrils glistened like threads of glass, scarlet-stained, in the sunset. On the left of the entry a burrower had laired for many years. They swung wide, avoiding this guardian.

It was shaming to stumble here, at the end: Niun felt the sand shift underfoot and caught himself, fearing at first a smaller burrower, undetected; but it was an old hole, only soft sand. He gathered himself up, dusting the knee on which he had fallen, and leaned against the ropes, shaking off the several offered hands. There was a black shadow over his vision, tinged with red: the membrane half-closed, no longer responsive to conscious will. The air he breathed was salty with his own evaporating moisture.

They passed the old graves, the thousands of the old Kath, here long before the regul. Then there were the lonely twelve of their own Kath, buried westward according to tradition, facing the rising sun, dawning hope. They were the child-bearers, and with them were buried the few sad children, those too gentle for Kesrith's harsh winds. Theirs were the lives that should have preserved the People, had Intel not chosen Kesrith for homeworld. Many worlds the regul had offered—fair, green worlds—but Intel had desired Kesrith. She had told them this. *The forge of a new people*, she had said of Kesrith. But the gentle Kath had died in

that forging, leaving the People desolate.

Facing the sun's setting were the Sen graves in their thousands; and the nineteen recent graves of their own Sen. These also, in their way gentle and vulnerable, had failed in Intel's refining, leaving Melein and Sathell alone to serve.

In the highest cliffs were the graves of she'panei and the kel'ein who guarded them in death. It was not certain how many she'panei had been on Kesrith. Niun knew of fifty-nine. He also knew that no kel'en knew a whole truth. He thought on this through the red and black haze of other thoughts as they turned toward the graves of the Kel.

There were only a few hundred such to the others' thousands, almost as few as the graves of the she'panei—on Kesrith. Their dead would many times outnumber those of the Sen; but very, very few kel'ein found their graves in earth.

They stopped at the newest cave, where the veterans of Nisren were entombed; and Niun forced himself to stay on his feet, to help them in unscaling it, moving rock until his hands were numb, for these stubborn old men would do everything themselves if he did not forestall them. He ached and his own blood was on the rocks with which he made place for Medai.

Kel'ein were not buried like others. Other castes faced into the valley of Sil'athen, but the Kel faced outward, toward the north, the traditional direction of evil. Row on row the dead lay in the dark. When they lit their single lamp, they could see them, musty black shadows in veils and robes

mouldering into ruin, veiled faces turned toward the north wall of the cave.

The air inside was cold and strange with decay. The dark oppressed. Niun stood, content for a moment only to stand, quiet, and let the old men set Medai in place among the others. They gathered then and faced north and spoke over him the *Shon'jir*, the passing-ritual. Niun repeated the words, spoken at birthings and burials, heralding a life of the People into the world and out of it.

*From Dark beginning
To Dark at ending,
Between them a Sun,
But after comes Dark,
And in that Dark,
One ending.*

The words echoed in the cavern, in darkness wrapped about them; and Niun looked at the dead, and at his companions, and considered the frailty of they that chanted of the Dark; and the fragile breath's difference between lips that moved and those that could not. Terror possessed him, rebellion, tempting him to rush out into the open; but he did not give way. His lips continued to form the words.

*From Dark to Dark
Is one voyage.
From Dark to Dark
Is our voyage.
And after the Dark,
O brothers, O sisters,
Come we home.*

He had never thought the words. He had mouthed them; he had never

felt them. He felt them now, looking about him.

Home.

This.

He held himself still while the others filed out, forced himself to be the last, mastering his fear; but even when he had the light of stars and Kesrith's first moon overhead, he felt within him that cold that many suns would never warm away.

"Seal it," said Eddan.

He gathered up the rocks one by one and fitted them into place, making tight their joinings, sealing them between himself and Medai. His breath came hard. He found himself with tears flooding his cheeks for his shame before Medai.

Not like you, cousin, not like you, he kept thinking, as he set each stone in place, a determination, a wall that he built, a protection for the hallowed dead against the winds and the sands and the prying fingers of the *suruin* that ranged the high hills; a protection for himself, barring the truth inside.

And they were done, all debts paid. The brothers blew dust upon the wind; he gathered up his handful and did likewise, bidding farewell. Then they rested a time before beginning the long, hard trek back to the edun.

Soah joined the first moon overhead, making their passage safer, and they set forth. Eddan went first, using his staff to probe for windflowers in the dark air, wary as those who walked the wilds of Kesrith dus-less had to be; but Niun lent his company to Sirain, who was half-blind and very frail, and too proud to accept help. Often

Niun gave way to exhaustion himself to slow their progress, as if the sores on his hands and the long walk and the sleeplessness had utterly undone him; but of a sudden pride was not important to him. It was only important that Sirain's pride be saved, that he not die. Niun did not flaunt his youth at them any longer. He found comradeship with them, as if they and he had finally understood a thing that he should have understood long ago.

They shared water and food together—sat, the six of them, in the dark after the moons had set, and broke fast; and the brothers were sorry for his hands and offered of their own experience various advice to heal them. But Eddan cut the stalk of a young luin and rubbed the juice of it on the sores, a remedy counted sovereign for every wound. It eased the pain.

In the journey after that the pace was slower still, and perhaps Sirain had seen through his careful pretence from the beginning, for at last he clasped Niun's arm in a feeble grip and admitted that this time it was himself who must rest a time.

By such degrees they came homeward.

And it was evening again when they returned, and the edun's entry was lit for them and the great bulk of the ailing dus still was to be seen at the door.

In the end there was no hurrying. Niun had been anxious lest he have to take up Sirain and carry him, which would have been a crushing shame to the old warrior. And for Sirain's sake, and for Eddan's, who labored now, they walked slowly.

Their anxiety to reach the edun, their dread of things that might have gone amiss in their absence, weighed heavily upon them.

But there in the doorway Melein waited, and gave them gentle welcome, unveiled, as they unveiled themselves, coming home.

"Is all well," she said. "Come in. Be at ease."

They entered, footsore and cold, and passed the long hall to the Shrine, that first of all, making their individual prayers, then the washing of the hands and face. And when they were done, they turned toward the steps of the Kel-tower, for they were exhausted.

But Melein waited, outside the Shrine.

"Niun," she said. "The Mother still sends for you."

He was tired. He dreaded the meeting. He turned his shoulder to her rudely and walked out of the hall, to the step, to see how the dus fared. He gave it a scrap of meat that he had saved from his own rations on the journey; but someone else had filled the pannikin with water.

It turned from his gift, and would have none of him. He had thought that this would be the case, but he had tried. He sank down in exhaustion on the step and stared at the dus helplessly.

Never would the beasts tolerate him, and this one, bereaved and suffering, he could not help.

He gave a great sigh that was almost a sob and stared at his bloody hands in the light, so sensitive, so delicate to wield the yin'ein, and reduced to this. There was no warrior here, none that the dus could

detect. It chose to die, like Medai. It found nothing in him to interest it in living.

He had the *seta'al* and the weapons and the black robes; he had the skill; but the heart in him was terrified; and angry; and the dus, being sensitive to such things, would not have him.

He swept off *mez* and *zaidhe*, bundled them into the crook of his arm; and with his right hand he gathered a handful of dust from the side of the step and smeared his brow with it, a penance for his jealousy.

Then he went inside, ascended the stairs of the inmost tower, that of the she'pan. He opened the door to the she'pan's hall cautiously and saw that Melein knelt at the she'pan's left hand, arranging the cushions.

"Hush," said Melein, accusing him with her eyes. "She has just now fallen asleep. You are too late tonight. Be still."

But the she'pan stirred as he came near her, and her golden eyes opened and the membrane receded, leaving them clear.

"Niun," she said softly.

"Little Mother." He sank down on her right and offered his bowed head to her gentle touch, an intimacy the Kel offered no others but the she'pan or a mate. Her hands were warm against the chill of his skin.

"You are safe," she said. "You are back safely." And as if that were all the burden of what she desired, like a child sleeping with a favorite toy at hand, she settled back into her dreams.

Niun remained still, leaned his

head against the arm of her chair, and gradually gave himself to sleep, her hand still resting on his shoulder. His dreams were troubled. At times he woke, seeing the cave and the dark; and then he saw the golden light that surrounded him, and felt the weight of the she'pan's hand, and knew where he was.

She dreamed, did the Mother, and reclaimed him; possibly she confused him with another. He did not know. He was kel'en, like the other. He sat at her side and slept at times and knew that the sum of his duty to her was to live, to stay by her. She had rejected Medai, and never from her had come a word of regret, of sorrow, for him.

You are safe, she had said.

The bonds, so lately slipped, ensnared him again; and at last he gave up his struggle and knew that he must serve the service that had claimed him.

The su-she'pani kel'en a'anu.

The she'pan's kel'en, like those in the cliffs.

In the whispered long-ago days, when there was no war, there had been such, when mri fought against mri and House against House, when she'pan contended against she'pan.

Her last kel'en, the one—he foresaw with what he thought was a true vision—that would never indeed know the Dark of the caves of Sil'athen: the one to seal the barrier for the others, and to remain outside, a guardian.

He slid a glance toward Melein, saw her awake also, her eyes staring into the shadows: He realized what it had surely been for her, alone here, with Intel.

For her also, he was afraid.

It was, in the Nom, the twentieth day.

It was possible finally for human nerves to adjust to Kesrith's longer day. Duncan rose and wandered to the private bath—that luxury at least their onworld accommodations had afforded him, although he must content himself with the recycled ration of water available within the Nom's apparatus.

The Nom depended entirely on life-support systems such as those of a ship. Regul did not find surface existence comfortable, although it was tolerable.

Neither was it, he suspected, comfortable for humans.

Filtered air, recycled water—the latter originally reclaimed from a sea so laden with alkali that nothing would live in it. The world's scant animal life was confined to the uplands, and from what information he had obtained from the translated regul advisories on the matter, there was little born of Kesrith that was harmless.

The interior of the Nom held gardens that somewhat humidified the air and provided a certain pleasantness, but the alien harshness of the foliage and the accompanying scent of regul made the gardens less gracious than they might have been.

He was, he reckoned, growing used to regul. He was learning to tolerate a number of things he had once thought impossible to accept, and that in twenty days of close contact.

And it was close contact. There were no restricted hours, no confinement to quarters, but the regula-

tions forbade them to leave the Nom at any time. Stavros, of course, would not do so anyway as long as regul remained on Kesrith. It was a reasonably brief time to wait; ten days until the first human ships should come in and replace the regul.

Duncan anticipated, at least, that their sanity might hold that long. He had a mental image of their first encounter with those humans incoming; of the landing party finding them each changed, bizarre and altered by their stay on Kesrith. He was not the man that had begun the voyage; SurTac Sten Duncan on Haven had been capable of far more impulsive behavior than was Sten Duncan, aide to the new governor of Kesrith. He had acquired patience, the ability to reckon slowly; and he had acquired something of regul manners, ponderous and unwieldy as their conventions were. They began to come as naturally as yes, sir, and no, sir; Favor, my lord; be gracious, elder.

They had promised him retirement after five years; but five years in this sullen environment would make him unfit for human company; five years from now he might find clean air a novelty and Haven daylight strange to the eyes: he might find human manners banal and odd after the stark, survival-oriented settlement that men would have to make of Kesrith. He was in the process of adapting. Any operation on any world, in any climate—in any hostile terrain—that required human hands directly at work onworld was a SurTac's natural job, and he was learning the feel of Kesrith.



Stavros was doing the same thing in his intellectual way, absorbing every oddity within his reach—like the regul, never seeming to need notes, simply looking and listening on his rare excursions from his room to the gardens.

This morning he had an appointment in Hulagh's offices. It was an important occasion.

Something rumbled outside, a sound different than the accustomed thunder of departing ships. Duncan switched the view to let light through the Nom's black windows. They could see the whole horizon, from the sea at the right to the hills at the left, save that they could not see the mri edun nor the port, the two sites in which they had the greatest interest. It was, of course, no accident that their view was thus. Nothing in the desolation that

lay before them had altered in twenty days but now, above the hills, there was a change. A storm was moving in, the clouds gray, red-tinged, shadowing the sea in one quarter. Lightnings flashed with impossible radpidity.

The weather, said the prepared statements of the bai's staff, is unpredictable by season, and occasionally violent. The rain is mildly caustic, especially in showers following duststorms. It will be desirable to bathe if one is caught in the rain. Above all, it is necessary to seek suitable cover at the earliest indication of a storm. The winds can achieve considerable force. When fronts converge on the seaward and hillward sides, cyclonic action is frequent.

The red light in the ceiling mount flared, summoning him. Stavros

was awake. Duncan quickly obtained a cup of soi from the wall dispenser—soi being the regul liquid stimulant, and only mildly flavored, unlike most regul foods. It was one of the few regul graces they had come to enjoy. A touch of sweetener made it completely palatable. He added the two drops, set the cup on a small tray, gathered the morning dispatches from the slot and carried the offering in to Stavros' quarters—again accessible only from his own apartment.

"Good morning, sir," he murmured, a courtesy which was regularly answered with only a civil nod, and sometimes that belated. Stavros was in exceptional spirits this morning. He actually smiled, a gesture that made his thin mouth the tighter.

"Do the windows," Stavros said. It was thundering again.

Duncan switched them over and let in the day's sullen light.

The first drops began to spatter the dust on the panes. A crack of thunder made the glass bow and rattle, and Stavros walked over to enjoy the view. Duncan himself felt a heightening of senses, a stimulation unaccustomed in their carefully controlled environment. This was something the regul could not schedule or censor, the violence of nature. He could see the storm sweep down on the sea, where the waves whitecapped, dyed pink. The whole day was enveloped in reddish murk, and fitful with lightnings.

"This," said Stavros, "is going to be one of the major obstacles to settlement here."

Duncan felt he was called upon to discuss the matter. He did not

know precisely how; his training was not in civilizing worlds, but in taking them.

"The regul gave us an edge there," he said, "with this city for a base."

"There's a considerable attrition in machinery on Kesrith, so I'm told; and for some idiotic reason, they've followed the mri example and built a number of outposts out of rammed earth and binder. It's cheap but remarkably unsuited for the climate."

"If you have a lot of labor, you can keep rebuilding, I suppose."

"Humans can't run a colony that way."

Stavros went off on another tangent of thought, sipping at the warm drink. Thunder rattled the glass again. Wind hit with a force that sent a sheet of water between them and the world, obscuring everything that lay beyond. Duncan swore in surprise and awe.

"The storm shields," Stavros advised him. It was hailing now, a rapid patter that threatened the windows. It came toward them, from their direction.

Duncan quickly activated the shutters. They closed across, tight, and cut off the daylight: The room lights compensated. Then he hurried back to see to the windows in his own quarters, appalled, afraid even to approach the glass under the violence that battered against it.

Thunder broke overhead as he reached for the switch, his heart pounding. The storm shield slid over the window, and distantly he could hear an alarm in the building; for a moment the hiss of air of air in the ducts ceased and he felt a

pressure in his ears, like sudden ascent in an aircraft.

He went to the door, opened it. Regul were whisking about in sleds along the corridors, in mad confusion. The pressure in his ears was eased then, and he heard a sound that was too deep for sound, a shuddering that went through the building.

"*Nai chiug-ar?*" . . . what is it? . . . he asked the first regul he saw afoot. "*Nai chiug-ar?*"

"*Sak noi kanuchdi hoc-nar,*" the youngling spat back, words that had something to do with the port, but nothing else he could understand. "*Sa-ak toc dac,*" it hissed at him then. Keep to quarters, favor.

Duncan retreated, closed the door and called the main desk for information. No one would respond to his calls. Eventually the world seemed to grow calm outside; only a rush of rain beat against the storm shields. He ventured finally to open the shields and saw nothing but a wash of water, distorting everything outside. He closed them again.

And from Stavros' room, long silence.

He gathered together his shaken faculties, berating himself for his panic, and went in to see about the old man, expecting cynical amusement at a SurTac who feared storms.

The cup was on the floor, a brown stain on the carpet. He saw the old man lying half across the bed, still in his nightclothes.

"Sir?" he exclaimed. He went nearer and touched Stavros' shoulder fearfully, then turned him over and obtained faint movement, a gasp for breath, a flutter of the right

eye. The left remained drawn, that side of the mouth peculiarly distorted. Stavros tried to talk to him, the sounds unintelligible.

In the next instant Duncan ran from the room, through his quarters into the hall and to the duty desk, where he tried every word that would come to mind to express his need.

"Stavros," he said at last. "Stavros!" and this finally seemed to impress itself on the youngling. It rose, lumbering in its gait, and came with him.

It stood, for a considerable time, at the foot of the bed. "Elder," it said finally, with the regul equivalent of a shrug. Here was an elder. It did not seem capable of rising; this was natural for an elder. Duncan seized its massive arm and raised his voice.

"Sick," he insisted.

Slowly, with ostentatious slowness, the youngling turned and went to the console, coded in a call and spoke to higher authority.

Authority responded, in a bewildering patter of words. Duncan sank down and bowed his head into his hands, despair knotted in his stomach.

And when an array of important regul arrived and began with dispatch to load Stavros into one of the sled transports, Duncan hovered nearby constantly, insisting with forceful gestures that he intended to remain with Stavros.

A regul seized him, firmly but without violence, and held him while the sled moved and departed. Then the regul released him. It was all the restraint that needed to have been applied; there was no way for

him to follow down that web of tracks.

He sank into a chair in his quarters, shivering with anger and terror and utterly, utterly helpless to do anything for Stavros.

Outside, the storm pattered against the shields. It continued for an hour or more. He left the room four times during that period to go down to the duty desk and demand information on Stavros' condition, each time arming himself with applicable phrases from his dictionary and lesson-sheets.

The regul on duty had learned quickly enough that it need not be silent to express disdain; it needed only to shower words at him as rapidly as it could speak, impressing on him his incapacity to understand.

"*Dal*," it said finally, "*seogin*."

Go away. It repeated it several times.

He turned away, headed not for the apartment but for the forbidden first-level ramp down which bai Hulagh had his offices. Words shrilled after him. A trio of regul closed in on him and marched him firmly enough to his door, pushing at him to make him enter.

"Stavros sick," one said finally.

And that was the sum of information available until the morning, after an entire night in sleepless anxiety.

But with dawn they came in numbers and transferred a brown-wrapped bundle from a sled to the bed; and Duncan, roughly thrusting himself into their midst, saw Stavros conscious but yet with that deadness about his left side.

And then there was deference in plenty among the younglings for a hum sounded at the door and a sled-console eased through the ample doorways to rest among them.

Bai Hulagh.

Words came from Stavros, distorted, unrecognizable in either language.

"Honorable Stavros, rest now."

The bai rose within his sled with great effort and looked directly upon Duncan. "Youngling, the affliction is to the nervous system."

"Bai," Duncan said, "help him."

The regul shrugged. "Human structure is strange to us. We regret. We are in the midst of considerable disaster. The storm toppled a tower at the port. There was great loss of life. Our facilities are strained by this emergency. Our information on the human system is very scant."

"I can provide you . . . I can provide you myself, bai, if your medics would—"

"Youngling," said the regul, a basso profundo that vibrated with disdain, "we do not have information. We do not experiment on living beings. This moderate restoration of function we could accomplish, no more. This is an elder of your people. He will be made comfortable to the utmost of our abilities. Do you, youngling, question this statement?"

"Be gracious," Duncan murmured, reserving decisions to others; he moved to Stavros' side, took the good hand in his. A mild pressure answered. Stavros' pale eyes glittered wetly, alive, fully

cognizant and trying to command him something. It was a stern and reprimanding look. Duncan tightened his hand in reassurance and looked up at the bai.

"Favor, Reverence," he said. "I am distressed for him."

The bai gestured him to come. He let slip Stavros' fingers and did so, submitted to the touch of the regul bai, whose rough fingers rested on his shoulder, a considerable weight.

The bai spoke curtly to his servants, who hastened about their business. Then the wrinkle-enfolded eyes looked into Duncan's face, and the bai's fingers tightened until it was hard not to wince.

"Youngling, I am informed you have neglected food and drink. This is an expression of grief? This is religion?"

"No, Reverence, I will eat."

"Good." The word rumbled forth, almost incomprehensible in its depth. The pressure increased until Duncan felt the joint give. He flinched. The bai dropped the hand at once.

And then the bai turned ponderously and levered himself back into his sled, settled. The machine whined, backing, and turned and retreated.

Duncan stood and stared after it, after the others who withdrew almost as quickly. A sound came from Stavros.

"Sir?" he asked at once, trying to keep his voice natural. He turned and saw Stavros beckon toward the table. Stavros' notes were there. He gathered them up and offered them, but Stavros with his right hand fumbled after the tablet only. Dun-

can understood and found the pen to give him. He knelt down and braced the tablet as Stavros wrote, heavily, with childlike awkwardness.

Regul not upset, he read. Process with them natural to age. Mobility may return. No reason for panic. The awkward, slanted writing reached the accessible limits of the page. Duncan reversed the tablet, braced it higher.

Humans due soon, Stavros resumed. Disaster at port—truth. Regul evacuation schedule hampered; Hazan damaged. Regul much concerned. Mri—need to find out what mri doing. This most urgent. Listen to regul talk, learn of mri, don't provoke.

"Leaving the Nom if I have to?"

SurTac—now become diplomat. Careful. Take my instructions. Regul kill younglings here—many. Consult first on everything. Move me. Now. Console.

Duncan did not want to move him; but Stavros cursed at him thickly and ordered him aloud, and evidently he was determined. Duncan carefully, tenderly, gathered up the old man and placed him within the sled-console in the corner, supporting him, adjusting the form-fitting cushions to hold him securely. Stavros' right hand sought after controls, made further adjustments. The sled-console turned. The screen turned independently. A message, hand-keyed, crawled across the small screen.

Can learn even this.

"Yes, sir," Duncan said with a tightness in his throat. He was suddenly concerned for this man, for Stavros personally.

The message-crawl resumed.
Order food for you. Rest.

"And for yourself, sir?"

Stavros turned the sled, jerkily maneuvered it to a position next the bed. He operated the console arm to dim the lights. *I wait*, the screen read. *No needs*.

X

"Truebrother."

Seated on the step beside the dus, Niun looked over his shoulder. It was seldom now that he met his sister informally, brother and sister, daithen and daihe, as they had been before. She surprised him with the dus. He was embarrassed to be found at this charity; there had been a distance between them, although they had been much together of recent in the she'pan's hall. He did not like to be with her alone, not any longer. It was painful, that the closeness between them was gone.

He continued a moment, trying to tempt the dus with a scrap of food, for until Melein had come, he had deceived himself that there was the slightest flicker of interest in the dark eyes of the animal. Now it would not even glance at him. But he had so deceived himself many a time since its coming to the edun. He shrugged and casually tossed the prize to the dus, letting it land between its massively clawed forepaws. Sometime, eventually, it would eat. Now it accepted just enough to stay alive; sometimes he would see the scrap shriveled and neglected that evening, and the dus moved slightly elsewhere until it was taken away; for the dus was proud, and did not want to eat.

Someone else saw that the waterbowl by the step was constantly full. This was great extravagance on Kesrith. Ordinarily a sick dus simply complained when thirsty and received what it needed; and a healthy one derived all its moisture requirement from food it ate. Niun suspected kel Pasev of this wasteful charity. She had her own dus but she was capable of such feelings toward a good animal. He was not himself so deft in his offerings as was Pasev. Doubtless everyone in the edun knew how desperately he tried to feed the creature, and claim it, and how it stubbornly refused him.

Likely another kel'en would be feeding it if he were not. The dus shamed them all in its loyal grief. It found not one of them worthy to take it; and rarely would a dus transfer affection, but Niun still hoped, desperately, for the life of this one.

"Sometimes," said Melein, "they simply cannot be saved."

She sat down on the dusty step with him, heedless of her robes of caste; but the granular sand of the edun grounds did not cling as much as the white lowlands powder. She wore the light veil over her silken mane in the out-of-doors, for the Sen disdained to cover.

The body of a kel'en is itself a Mystery of the People, the teachings held, and therefore the Kel veils; the body of a sen'en is a veil to that within, which is a Mystery of the People, and therefore the Sen veils not.

Save to the unacceptable.

The weather was fair after the storm of days past in which wrack

and disaster had blown down the passes and dealt havoc in the regul town. The smoke of the destruction in the lowlands had been visible even through the rain; and when the worst of the storm was done, the kel'ein had looked out from the summit of the Sen-tower with a new and bitter satisfaction.

"Ah," Eddan had said when they noted the smoke and the fire, "Kes-rith has her way with the masters even yet."

It was likely that many regul had perished in the conflagration. Such satisfaction was a thing that once no mri would have thought or felt. But that was before the unaccounted-for death of kel'en on a regul ship, and before it was clear that humans would possess the world.

Now the stars of evening began to show in a clear sky, and there was no wind to stir the sand and make the *mez* advisable. Such crystal evenings were frequent following the greatest storms, as if the very world lay exhausted after the recent violence.

He dropped his veil and looped it under his chin, refastening it. There was no likelihood of tsi'mri here, and he did not need it.

"Shall we walk?" Melein suggested.

He had no such thing in mind, but rarely did Melein ask anything of him any longer. He arose and offered her his hand to help her up. Thereafter they walked, side by side, in the direction Melein chose, taking the small trail that led from the corner of the edun to the rocks at the top of the causeway. He found himself remembering the times that they had run that dis-

tance, they three, agile as the dusty lizards, children without the veil, small slim-limbed boys and smaller girl, racing illicitly for the vantage point from which they could see the ships at the port come and go.

They had been ships with magical names then, mri ships, regul ships—*Mlereinei*, *Kamrive*, *Horagh-no*—that came from distant stars and the glory of battles. As children they had played at war and duel and imagined themselves great kel'ein, glittering with honors like the far-traveled kel'ein that visited from the ships and departed their own ways again, like their truemothers and their fathers that left separately with the ships and never visited homeworld again.

Tonight they walked, he of the Kel, she of the Sen, weighted with their robes of caste and their separate laws. When they reached the rock that overlooked the valley, he leaped up first and pulled her behind him with a single tug—there was still the girl Melein within the golden robes, agile and quick as a kel'e'en, unbecoming the gravity of her caste.

They sat together while the red sun vanished, watching the whole of the valley, and the glow of lights where the port was, and the wound the storm had made there, a darkness amid the lights near *Hazan*.

"Why did you ask me here?" he asked of her at last.

"To talk with you."

He did not like this manner in her. The last light touched her face. It was that of a stranger for a moment, someone he should remember, and did not, quite. It was not Melein as he knew her, but a

sen'e'en, that contained quiet, secret thoughts. He suddenly wished she would not pursue the opening he had given her. He foreknew that she might rob him of his peace; and he could not stop her from doing it.

"You do not smile anymore," she said. "You do not even look up when you are named."

"I am not a child."

"You do not love the she'pan."

"I came. I sit. I wait. This seems to be all she wants of me. It is her right."

"You do not much go out of the edun."

"I have given up, Melein. That is all."

She gazed upward, where the stars glittered. Her arm, resting on her raised knee, pointed toward Elag's star that shone and danced above the hills. "There are humans now," she said. "But it is different there—at Kesrith. This is homeworld. Sanctuary for the People. The Holy."

He looked at her, sullen, frightened. "Remember that I am kel'en."

"The Kel must remain unlearned because the Kel ventures where our enemies are, where knowledge that cannot serve the Kel cannot be permitted. For all traditions, however minor, there are reasons. You are a kel'en of homeworld, and you will hear what it would not be good for a kel'en elsewhere to hear."

He rose and set his back against the rock, leaning there with his arms folded and the rising breeze touching him with more chill than was comfortable. It was night now, the last of the sun slipped from view. He did not know why she had

wished to come out here. The hills were full of menace.

The ha-dusei, wild relatives of the tame companions of the kel'ein, were not to be trusted. There were windflowers and burrowers, and serpents that hid in the rocks. He owned a sen'e'en his protection; it was arrant stupidity to be out here with Melein in his charge after dark. Her value to the edun was incalculably above his.

"We can talk elsewhere later," he said. "I do not think we should have come here at this hour."

"Listen to me!"

Her voice was edged, cruel, a blow that stunned. Melein was his little sister. She had never before used that tone with him.

"Today," she said, "the she'pan called me in private. Today she gave me rank with Sathell. And you understand this."

She'pan's successor, her Chosen.

In the nethermost parts of his mind he had known it would come; this was the only reasonable purpose behind Intel's snatching Melein out of Kel and into Sen.

Not to bear children, but to learn the Pana. the Mysteries; not to continue the People, but to rule them.

And Intel had taken him likewise, to defend challenge to herself, to guard her—to kill, if need be, any over-anxious successor and any kel'en that supported a challenger's cause.

He gave a single bitter curse, understanding; and he saw the hurt leap into Melein's eyes.

"I am sorry that you take it so," she said.

"Why must she have kept me by her and not Medai?"

"She trusted you, and never Medai."

He considered that, and its reasons. "She trusted you," he said softly, "while I guard her sleep. While she could set me against you."

The hurt to Melein became shock. The thought seemed to startle her. "No," she said. "I am not apt to challenge her."

"Not as long as you have regard for me," he answered. "She feels her mortality on her or she would not have named you yet. And some kel'en will guard her tomb."

"She would not take you. Eddan . . . Sirain . . . they would seek the honor. But not you."

"Maybe with the humans at hand the question is pointless. I am thinking ahead of the hour, and that is beyond my caste. You will have to think that through, truesister. I am far from knowing the future. I can only speak for what is true now."

"She is not preparing to cede homeworld quietly. Niun . . . I am young, I am nothing compared to Intel's experience. Other she'panei would hesitate to challenge her; she knows too much. Killing her would rob the People of so much, you do not know how much. It would be an act of—I do not know, Niun, I do not know. If I should succeed her as she'pan of homeworld, here am I—young, inexperienced. I know that some older she'pan will come then and challenge, and it will be my place to die. I want her to live, I desperately want her to live, and she is dying, Niun."

He found himself trembling, hurting to reassure her; and there was no comfort to be found. She spoke

of things beyond his caste; and yet he thought that she had laid out all the truth for him, and stolen what remained of his peace and hope. He had always thought that she would survive him.

"We were unlucky," she said, "in being last-born of the People; not alone of Kesrith, Niun, but of all the People. We were without choice simply because we were the last. I wish it were different."

What she said struck at other confidences. He looked at her with the wind whipping at them and chilling to the skin, and ceased even to shiver. "Of all the People?"

"Edunei have fallen," she said, "and children have died; and kel'e'cin are occupied with war and nothing else. I should not have answered," she added. "But of our generation, there is little left. Those older, they will get other children. It is not too late."

She tried to comfort him. He reassured himself that she had faith in their future, and that this was enough.

"But then," he said, catching up a thought, "then Intel will not plan to lose you. You might be, after after all, the ablest after her; and if she bequeaths my service to you—if you should challenge or return challenge—Melein, I can defend you. I am not unable to defend you. I am skilled in the yin'cin. Nine years they have kept me in training. I must be capable of something."

She was silent for a time. Finally she arose. "Come," she said. "Let us return to the edun. I am cold."

And she was silent as they climbed down to the trail and walked back; she wept. He saw it in

the starlight and took off his veil and offered it to her, a gesture of profound tenderness.

"No," she said fiercely. He nodded and flung the *mez* over his shoulder, walking beside her. "You are right," she said finally. "I will not surrender the office and die without challenge . . . should it come to me. I will kill to hold it."

"It is a great honor for you," he said, thinking that he should have said something of the kind when she first told him.

She let go her breath, a slow hiss. "What, honor? To go into some strange edun, and into a strange Kel, and kill some woman who never did me hurt? I do not want that honor."

"But Intel will arm you for this," he said. "She will make you able. She has surely planned for this for many years."

She looked up at him, her shadowed face set and calm now. "I think you are not far wrong," she said, "in believing that she wanted you by her because she knows I could make trouble in the House. She trusts you. She does not trust me."

He shivered, hearing in her voice the bitterness he had always suspected was there, and shadows tore away between himself and the Sen-tower and the she'pan.

He remembered Melein preparing the cup each evening, the cup that helped the she'pan sleep; and each evening the she'pan drinking, nothing questioning. He suspected what ungentle things might run in Intel's drughazed mind: a she'pan foreseeing her own death and mistrusting her successor with good

reason.

Intel had wated Melein disarmed. For this she had sent Medai into service, and had kept her brother close by. Some kel'en would guard Intel's tomb. Normally it would be one of her Husbands, not a son. But there might be one instruction if she passed of age, another if by Melein's hand.

And Melein would have to challenge against him to challenge Intel. He would die before Intel would; but then Melein would have to find a kel'en to champion her—and there was none who would agree to that.

Intel had done well to banish Medai.

But Melein was not capable of the things of which Intel suspected her; he insisted to believe that she was not. Caste and teaching and the bitterness of her imprisonment could not have changed his truesister to that extent. He would not believe that Intel's fears were justified.

I want her to live. I desperately want her to live. I desperately want her to live. Melein had said.

"How much," he asked finally, "did she bid you tell me?"

"Less," she said, "than I have told you."

"Yes," he said, "I had thought so."

They came back to the edun, she drawing ahead of him as they entered. He looked aside at the dus, that turned its head from him. When he looked up, she had gone on into the shadows, toward the stairs of her own tower.

She did not look back.

He went toward the she'pan's tower, to take up his duty, where he belonged.

There was quiet over Kesrith. After so many hazards, after two days stalled with the port in chaos from the storm, the last shuttle had lifted—with its cargo of refugees—to the station where the freighter *Res-trivi* was forming the last regular civilian list that would leave the world. Hereafter there was time, necessary time, for setting final matters in order. Against the ruddy sun of Kesrith there was only *Hazan* remaining—armed and, when her minor repairs were completed, star-capable; she waited with her crew constantly within her. She carried in her tapes the way to Nurag, to regul homeworld, to safety and civilization for the few hundred regul left on Kesrith.

A ten of times each passing day bai Hulagh Alagn-ni, working in his heated offices in the Nom complex, looked up at the windows and concerned himself with the condition of *Hazan*. The dual-capable ship, strong enough behind her screens for combat, was yet a perilously fragile structure when grounded. He had hesitated to take her down in the first place; he had suffered agonies of mind in the hours of the storm's approach, and had at last decided against lofting her to stationside.

And then—then to have a witless aircraft pilot attempt to outrun the storm and risk the crosswinds, a known peril at Kesrith's field—on such an occurrence the whole mission was almost lost. Hulagh cursed each time he thought of it, the youngling pilot and passengers, of course, beyond retribution. He was

relieved that, at the least, damage had been confined to the tower and loading facilities, and harm to *Hazan's* structure was minimal. Luck had been with him. *Hazan* was in his trust over the objections of powerful influences back on homeworld. He had risked everything in securing for himself and his interests this post, replacing old Gruran and Solgah Holn-ni—an assignment for which his personal age and erudition had qualified him—and thereby winning doc Alagn the status it was long overdue.

But as with landing the ship, as with other decisions he had made along the way, it was necessary to risk in order to gain. It was necessary to demonstrate to homeworld his claimed ability and that of doch Alagn in order to obtain the influence permanently.

He could do so by salvaging the most possible benefit of Kesrith, after its loss by Gruran Holn-ni and his get; and Solgah Holn-ni—he thought with disgust and contempt of the prolific female who had ruled Holn's establishment of Kesrith and lorded it so thoroughly over the zone and over the war that was her creation—Solgah was on her way to homeworld in utter confusion, stripped of her command, most of her younglings left behind, their ranks decimated by Hulagh's own orders, survivors parceled out to many different colonies, the doch in complete disorganization. She would be lucky if her influences on homeworld enabled her to escape sifting and the execution of her younglings. At the least, Holn was due for some years of obscurity.

The memory still pleased him—

the way Solgah had received the shock of *Hazan's* unscheduled and unauthorized landing; the way she had fluttered and blustered with prohibitions and objections, until he had made known to her his homeworld-granted authority to assume control.

Now it was his office to complete the evacuation Solgah had begun, to save as much as possible from the concessions her weak kinsman, Gruran Holn-ni, had granted in negotiations at Elag, trying to save the inner portions of the vast Holn empire. It was his task to prepare Kesrith to receive human occupation and to remove regul properties, as much as could be saved, and regul personnel, as many as could be saved; and to ensure that humans drew the least possible benefit from what they had won in war and in negotiations.

Hulagh had dealt with humans indirectly for three homeworld years, having met with a few after replacing Gruran; and he knew them—including the two that had come in on *Hazan*—with a quiet but mild distaste; less distaste, in fact, than he had ever felt for mri, who served regul. The human war, of course, had been a complete mistake, an error in calculations, not one attributable to doch Alagn. It had been abundantly clear to wiser regul minds for the better part of five years that the companies of Holn doch had involved themselves in an utter fiasco from which the mri were unable to rescue them, and that error would have been corrected then had it been possible to restrain the obstinacies and military power of such as Holn, whose

employ of mercenary kel'ein, and whose obvious self-interest in retaining the disputed territories, had stalled off any change in policy.

Now, at last, after the consequences of the original error were multiplied to great cost, after regul lives and properties and home territory itself had been lost, the Holn empire tottering on the brink, now the military Holn handed the tangled and dangerous situation—reluctantly even so—over to older, wiser minds on Nurag.

And politics, in a turn of events unforeseen by the Holn, had served to turn the Holn authority finally into the hands of Alagn and to elevate Alagn to a status in which Alagn, with the right Alagn in command, could utterly ruin doch Holn.

Holn had left a tangle behind them. Bai Hulagh was far from satisfied with the treaty terms within which he must operate but they were Holn's legacy, sealed, legal, recorded and beyond his power to adjust. Yet if the cession of three colonial systems, costly as that was, had created a permanent and reliable boundary between human and regul claims, it could turn out to be one of the wiser things doch Holn had done in its administration. Doubtless, Hulagh felt, the humans now clearly knew that they had made all the cheap gain they could reasonably expect in this adventure and that hereafter regul would resist with more vigor. The humans were apparently perplexed and disturbed by this sudden change of authority on the frontier and yet they seemed anxious to honor the treaty. Kesrith was a likely and sensible boundary.



The dead space of the Deep discouraged exploration regulward without considerable routing round by Hesoghan, an old and firmly regul holding; and the lure of the Haze-stars would lead humans from Kesrith rimward in due time.

So Hulagh planned in his strategies, mapping what he considered might be new directions in regul policy. The humans would be attracted by the wealth toward which Kesrith had been reaching; but, likewise, the regul stars had mineral wealth sufficient to sustain industries without the convenient luxury of doch Holn's outermost colonies. Economic effects would be felt, but only in small degree on homeworld; and as long as the elders of homeworld were well supplied in their needs, the Alagn operation would be favorably judged.

And afterward, it was only one arm of regul expansion that had been cut off. Two others remained. One of them was the presently meager holding of doch Alagn.

To direct, to shape, to rule, to settle himself eternally into the memory not alone of doc Alagn but of the center of Nurag—this was the dream Hulagh savored. In his vast age he had outlived his rivals, had seen them dust; and he remembered, and planned long. He had obliterated the younglings of his chief enemies. He risked everything now in assuming personal command of Kesrith. If matters went amiss, it would be remembered that Hulagh of Alagn was in charge when they did so; but here on Kesrith also lay wealth he desperately needed.

The terms of the human-regul treaty surrendered only the bare

earth of the ceded worlds. They laid no specified claim to valuable hardware, cities, resources. Bare earth was all the encroaching humans need find when they arrived; and redeveloping the stubborn wilderness of Kesrith would occupy them long enough to give regulkind a breathing-space—while the plunder of Kesrith would go into the stores of Alagn doch, legitimate salvage to which Holn had no claim.

And all this under the very eyes of the human envoys.

This satisfied Hulagh no less, to discredit the human who had been sent to oversee the transition of power. The sudden illness of the human elder and the natural timidity of its single youngling were a convenience beyond measure. A regul elder would have demanded constant and detailed reports of actions by his hosts; a competent one would have demanded them in such volume and at such a pace that nothing escaped his notice; a resourceful one would have used his youngling's eyes to see what he was not meant to see. But none of this had the human envoy managed on any great scale. The human concentrated on the wrong materials, learned the language assiduously and reheard reports that he had already been given in his own language, going over old information as if he suspected he could learn something new from it, as if there were discrepancies or untruths in plain statements. Such deception might be the human practice; they were not regul. What was happening was as wide as the port and as plain as the ships that daily lifted; and when

humans arrived some few days hence, they would find a stripped and ruined possession and their delegate in command of a barren wilderness incapable of sustaining life on any large scale.

This was itself a coup that the council on Nurag would savor when it heard of it.

Hulagh had been perplexed originally that the two humans had contrived no means of circumventing the onerous restrictions placed on them. Only once had they broken quarantine, a quarantine no regul would have accepted in principle in the first place; and that one success seemed without forethought and was embarrassedly, tacitly, ignored by the envoy. It had succeeded only because it had been uncharacteristic of the humans, a minor victory in the sense of its unhappy result, but actually of no possible benefit to them. In the end only the kel'en had suffered for it, and that needlessly, he being as impractical as all his kind. The mri had been a man of importance among their bloody, stubborn species. He had promised perhaps to be valuable; but he had been ruined. The humans remained ignorant even of this small revenge they had inflicted on their old enemies. They sat helpless, obedient.

And hereafter there remained nothing much on Kesrith but what waited loading, now that work crews were free to clear the debris at the docks. There were charges to be set, a few small installations to be stripped, mines to be closed; but the most valuable cargo waited at the dock already.

Of personnel there remained only

the lowest-priority evacuees, who would leave with him on *Hazan*.

Records bequeathed him from doch Holn indicated that there had been some eighteen million regul adults on Kesrith at the beginning of the evacuation procedure. It was a colony once exceedingly prosperous and supporting a university and a few first-rate elder minds (excluding the Holn, whom he despised as over-valued). He knew the exact number—and the disposition Holn had made and the disposition he himself had made—of the remaining citizens and properties from the instant he had taken charge, and what goods to be consumed enroute he had placed on the evacuation ships and what was to be allotted as personal baggage, and what he was salvaging to take himself; all this he knew down to fractional weight and space requirements for shipping. He had absorbed the data in minute detail.

He had made occasional written records against the event of his sudden death and the passing of Alagn doch to his immediate heirs—he did not entirely trust humans—or his sudden incapacity; but these were only for such an event. In the ordinary course of transactions he did not consult written records at all. It was physically impossible for a sane and healthy regul to forget anything he determined to remember, and it was also quite likely that he would remember whatever he heard only casually. Hulagh believed implicitly in the accuracy of the record he had obtained from Solgah Holn-ni, his enemy, as he believed implicitly in her sanity. It was inconceivable that Solgah—however lacking in astute-

ness she was, and over-impressed with her ability as an administrator—would not have at least recalled accurately what was the number of regul on her world, and what their resources, and how disposed.

He knew therefore that three hundred twenty-seven regul young remained with him outside the ship, the barest minimum necessary to carry out the dismantling operation, and three of those were almost adult. The majority were younglings below the age of twenty-five, as yet undetermined in sex—this would manifest itself at about thirty—and far more mobile than would be possible for them as they began to attain their adult weight. They were of use to him when it came to errands or heavy labor, and for the observations of the evacuation that later would be gleaned from their memories by expert scholars on Nurag. Their memories, presently—save in their most recent unique experiences and knowledge of the events passing around them—had not yet acquired sufficient data to make them intrinsically valuable to any elder, simply because they had not lived long enough or traveled far enough to yet rival the experience or comparative observational powers of an elder. They belonged only to the doch of their birth and had not seen what they might yet accomplish; and since they would not sex and reproduce for another several years, they were not distracted by these considerations.

Only those fully mature and those protected by adult choice of a doch (even Holn) had been lifted off to

safety in the main evacuation—they and such infants as could be contained in their mothers' pouches for the duration of the voyages, life-supported without undue expenditure of resources by the crowded rescue ships.

These last younglings, more fortunate than the masses of Holn that had not fitted into either category, knew that they were still expendable, and why, and they were accordingly nervous about the coming of humans and petulant about their personal losses and—the common quality of the young—abysmally stupid in their anxieties, believing, for so their limited experience misled them, that they were the first and most important younglings in the history of the race to suffer such things.

One fretted outside now and craved admittance for the fifth time, urgent with some message doubtless protesting the conditions under which they were confined in the Nom and forbidden to wander the square during off-hours, or protesting the long hours that they had been required to work since the crisis at the port, or expressing their increasing fear of the coming humans and the fact that they themselves were not yet on board the safety of *Hazan*, which was at the root of everything. Hulagh had answered enough such requests for attention, both from regul younglings and from dull-witted humans. He was busy. The youngling in question was not assigned anywhere near the human delegate, so it could not be an emergency in that quarter, which was the only matter that would have truly interested him

within the Nom. He dealt with the destructions of the storm as best he could, covering the one error he had committed—failing to ask of Solgah concerning the behaviors of the seasons and the climate of Kesrith. He had little time for petulant and frightened assistants.

But the youngling persisted. Hulagh sighed at last and pressed a button and admitted the youngling, whose agitation was extreme.

"Be gracious, bai." It was the one named Suth Hara-ri, bred of the university bai-dach. It gave a polite suck of breath.

Hulagh reciprocated. There was at least some grace in Suth, who had been unmannered and fearful to a degree unbecoming any age when it began service. This former gracelessness on the part of Kesrith's younglings in general was surely due to the years of war that had encompassed the younglings' entire experience. The Kesrithi younglings left in Hulagh's charge were now acquiring some graces. Hulagh continually took care to remind them so that they would not arrive ashamed and misfit in the inner worlds. This also he took for part of his duty in salvaging what he could of Kesrith; and he also anticipated winning the best of the younglings to Alagn's enlistment as adults, hand-trained, augmenting his private staff to that of a colonial governor.

He reached a place where stopping work would not overmuch inconvenience him, but he let the youngling wait a bit more while he enjoyed a cup of soi, and midway through it he saw fit to gesture his willingness to listen.

"Be gracious," Suth breathed, then blurted in desperate haste: "Bai, the station reports a mri vessel incoming."

This struck through all courtesies and lack of them, commanding Hulagh's attention. Hulagh leaned back, the cup forgotten on the console, and looked at the youngling in unconcealed dismay.

The merceneray Kel—arriving in this situation with humans but a few days removed from Kesrith. Hulagh's hearts became at once agitated and anger heated his face. It was like the mri, to be inconvenient.

To arrive always in the moment other elements had reached their maximum vulnerability.

"They have given notice of their intentions?" Hulagh asked of Suth.

"They say that they will land. We urged them to make use of the station facilities. They did not respond to this. They said that they have come for their people onworld and that they intend to land."

"Mri never lie," said Hulagh for the youngling's reference, assuming it had never dealt face to face with the mercenaries. "Neither do they always tell the truth. In that, they resemble regul."

Suth blinked and sucked air. Subtleties were wasted on this one. Hulagh frowned and blew heated air through his nostrils.

"Are they to have their permission to land?" asked Suth. "Bai, what shall we say?"

"Tell me this, youngling: Where are our station ships?"

"Why, gone, gracious lord, all but the freighter and the shuttles, with the evacuation."

"Then we cannot very well enforce an instruction not to land, can we? You are dismissed, youngling."

"Favor," Suth murmured and withdrew, hasty and graceless in departure. Hulagh, already deep in thought, failed to rise to the provocation.

Mri.

Inconvenient as the stubborn kel'en he had inherited from Gruran. Bloody-handed and impulsive and incapable of coherent argument.

His memory informed him that there were constantly some few mri on Kesrith, and that this was true of no other world since Nisren had fallen to humans forty-three years ago. There were thirteen mri in residence. There was nothing to indicate why Kesrith had been so favored, save that mri had a tendency to choose one or another world as a permanent base, designating it as homeworld, and thereafter behaving as irrationally and emotionally as if this were indeed the true land of their birth. There had been three such homeworlds thus far in the regul-mri association, all within the Holn domain, since the mri had constantly come within Holn jurisdiction and remained unknown in home territories of the regul. This employment of the mercenaries was, curiously, not an arrangement of regul seeking, but an arrangement that the mri had offered the regul two thousand two hundred two years ago—for no apparent reason, for no apparent compulsion, save that this arrangement seemed to satisfy some profound emotional need of the mri. Regul had inquired into this mri peculiarity, but re-

mained unsatisfied. There was a regul joke about mri, that mri had made records about their home and origin but had forgotten where they had left them, hence their nomadic condition. The fact that mri had no memories was a laughable matter to one who had not dealt personally with the intractable mri.

One could not argue with them, could not reason, could not persuade them from old loyalties and could not—above all, could not—tamper with their sense of proprieties. He remembered Medai's suicide with a shudder: the kel'en stubborn and without memory and prone to violence. It was like the mri to prefer bloodshed to reason, even when it was one's own blood that was shed. Medai, Kesrith-born, would not compromise; the mri treaty held only so long as regul maintained a homeworld for mri, only so long as that homeworld was inviolate from invasion. Medai had seen what he had seen, and could not reason otherwise; and therefore he had chosen to set himself against his lawful employers.

His suicide was supposed, Hulagh recalled, to put some burden of shame or social stigma on the man who had offended against the mri in question. This self-destruction was either an act of reproach or of complete repudiation, meant to have devastating effect on the emotions of his superior.

A mri kel'en would do such a thing even knowing that regul were not impressed, casting away his precious life rather than compromise on a small point of duty that could make no ultimate difference to him personally. Mri doubtless imagined

that it made a vast difference.

It was that mri ferocity that had originally appealed to the regul, an amazement that this savage, fearsome species had come peacefully to the regul docha and tendered their services—services without which the colonizing of the humanward worlds and the rise of the Holn might never have occurred, at least not in the manner in which Holn had created monopoly. And this very ferocity ought by rights to have warned sensible regul of the nature of mri. Mercenaries by breeding and choice, their strict, dull-witted codes made them in the beginning utterly dependable as guards in commerce of the outworld docha. They did not change allegiance in mid-service; it was impossible to bribe them; it was impossible even to discharge them save by the completion of a service or by suicide. They had not sense enough to retreat; they had no strong instincts of self-preservation, a fact which balanced their prolific breeding, in which all males of the Kel were free to mate with the low-caste females as well as the mates of their own caste. They therefore tended in the years of peace to multiply at an alarming rate, were it not for the attrition worked on them by their way of life, their rejection of medical science, and their constant passion for dueling.

How these fierce warriors had supported themselves before they found the regul to hire them was another mystery to regul, one which the mri had never chosen to reveal. Mri would not do manual labor, not even sufficient to provide them-

selves food. A mri would starve rather than bear burdens or work the earth for another. They broke this rule only for the building and maintenance of their own towers and the managing of the few ships they were allotted personally; but beyond those two exceptions they would not turn a hand if there were regul available to take over the menial tasks.

Once in Hulagh's recall a certain ship with a kel'en aboard had met a difficulty other than human, a navigational malfunction that had the crew in a panic; they had summoned the ship's kel'en—an old kel'e'en, it was—who had leisurely come to see the difficulty, sat down at the console and made the appropriate adjustments; then, with consummate arrogance, the kel'e'en had retired to the solitude of her own quarters, neither speaking nor offering courtesies nor accepting thanks.

Yet this kel'e'en could not read a simple sign to direct herself to the mess hall on station liberty, but had to be directed by her regul employers.

There was nothing to match either the arrogance or the ignorance of the mri Kel: touchy, suiciding when offended by regul, fighting when offended by other mri. There was no knowing what truly motivated the species. Hulagh himself reckoned that he knew humans better than he knew mri, although he had dealt with humans for three years and his ancestors had dealt with mri for two thousand two hundred two years. Humans were simply territorial like regul, and while they were creatures of brief

memory and small brain like the mri, they did have the industry to work and to mend the deficiencies of their talents with an admirable technology.

It was a curious thing that in the forty-three-year war the regul had come to trust humans far more than they did mri; they had come to fear humans far less than they feared mri. Constantly regul had to command the mri to observe the decencies of restraint, actually had to intervene to prevent the mri from escalating the war out of the territorial zone of conflict and into reaches far beyond regul limits, into a scale in which regul technology was inadequate to maintain defenses around vital homeworlds. The mri, who were specialists in war, yet had not been able to perceive this; even the Holn had done so, and had put restraints to the war or there would have been incredible devastation and economic collapse. Mri might lose one homeworld after another and move on, but they were nomadic; perhaps that, Hulagh estimated, was the source of their contempt for national boundaries. Regul could not contemplate the loss of even one world of home space, with artwork, technology, trade routes; they did not intend at any time to enter war with the all-out dedication of mri.

The most serious losses were, at the end of matters, to the mri themselves. Mri had begun the war with one million, nine hundred fifty and seven kel'ein according to regul census; and this small figure was still a great increase over their former numbers, reflecting the prosperity that had been theirs while

in regul service over the span of two thousand two hundred two years. Only a hundred thousand had they numbered when their leaders had first approached the regul and begged to be allowed to take service with the regul species. But now the most recent records indicated that there were but five hundred thirty-three mri of all castes surviving in known space.

It was impossible, considering that small number and the mri's unrestrainably fierce inclinations, that the species could survive at this low ebb—ironically—without regul protection during their recovery. An era had ended with the passing of the basis of Holn power, with the passing of the kel'ein. A few could be preserved by Alagn if the mri would, in extremity, permit themselves to see reason; and Hulagh could see use for them, if only in the regul awe of the ferocity of the Kel. But they must be removed from the path of the human advance or the mri would continue, like automatons, to dash themselves to death against the inevitable.

And in the midst of other confusions, one mri must suicide and now a mri ship must come interfering in the evacuation of the mri homeworld. It would be an armed ship. Mri vessels, at least vessels totally mri, were small, but mri did not go anywhere unarmed.

The humans who were coming to take possession of Kesrith would likewise be armed.

Hulagh considered for one wild moment making a graceless withdrawal from his duty on Kesrith, bundling surviving younglings and himself aboard *Hazan* tonight and

leaving the mri and the humans to each others' mercies.

But *Hazan* was not ready, not fully repaired, her important cargo impossible to load until the dock machinery too had been repaired.

And he would not retreat in such fashion, a move that would be told on homeworld to his discredit; in that much he understood the mri compulsion to stand fast when pushed.

He reached to his left and pressed a button, contacting the youngling Hada Surag-gi, kosaj of the Nom, that served him personally for sufficiently important errands: a twenty-year-old, Hada, extraordinarily competent in its advanced post.

"Hada," he said, "send the records of mri settlement on Kesrith."

"Be gracious," replied Hada's voice. "Such records go back two thousand two hundred two years. Kesrith was among the first worlds possessed by the mri and it is locally believed that they were here before first contact. What information does the bai wish in particular? I may perhaps recall what is of help."

This was utter impudence, that such a youngling supposed its own personal knowledge sufficient to remedy the desire of an elder.

"O young ignorance," said Hulagh peevishly, remembering that he was the only elder presently on Kesrith and that the youngling, although impertinent and self-important, was probably offering, with the best of intentions, to save him valuable time and effort. This was not, after all, Nurag; there was a limit on everyone's time and pa-

tience, most particularly his own. "Hada . . . what do you suppose would bring a mri ship now to Kesrith?"

"This is," said Hada, "the present mri homeworld. Perhaps they mean to defend it. They are not accustomed to retreat."

It was not a comforting conjecture, and precisely the one Hulagh had made for himself. Yet the mri had accepted the treaty that regul had made with humans; mri had been advised at every step of the negotiations that they might not carry on further war with humans.

"Hada, what is the present number of mri on Kesrith?"

"Bai, there are thirteen, mostly elders of the edun and entirely unfit for war."

He was surprised by this. He had not been interested in the small edun since it had not intruded into his notice; he had known the number accurately, but not the incapacity, of its members.

"Send the records anyway, whatever you possess on the leaders personally and on the history of the species here." *Perdition*, thought Hulagh miserably, *mri have been on Kesrith for far too many years for me to sift through such as this. There is no time. The records will be mountainous.*

"Hada."

"Favor?"

"Contact their kel'anth. Tell him I want him to report to this office immediately."

There was a long pause. "Be gracious, bai," ventured Hada at last. "The Kesrithi edun is headed by a she'pan, one Intel. Onworld a kel'anth must defer to a she'pan.

He is not the leader of the mri on Kesrith."

Hulagh's oath cut short the youngling. There was silence in the chatter for a moment, welcome silence. He absorbed the new information, embarrassed by his reliance on a youngling's knowledge and aware that, where mri were concerned, no one actually knew what the chain of command was within their community. Hada claimed to possess this knowledge. Perhaps Hada had acquired it from elders of Holn doch, who had commanded mri for generations.

Plague and perdition, thought Hulagh, there is no time, there is no time. Confound all mri to perdition. But neither did one summon a she'pan; he knew that much. None but Kel-caste would respond to a summons to leave their community and meet with outsiders. There was the necessity to brave the process of records-search or the necessity to ignore the incoming ship, with all its ugly possibilities.

Or—there was the necessity to leave his desk and his work and his important duties to the incompetent mercies of youngling assistants at such a crisis, while he paid slow courtesies to a mri religious leader, whose memory was fallible and whose graces were probably lacking, who trammelled up the cleanly relations between regul doch and mri kel'anth. He and the warleader of the Kel might have settled things with a simple exchange. But with one of the ceremonial leaders of the mri involved—one whose power was nebulous and whose authorities and compulsions were somehow linked to the mri religion, whatever

it was—a regul petitioner must suffer tedious and pointless discussion that might only perhaps produce what he wanted.

"Hada," said Hulagh, surrendering, "fetch me my car and the most reliable driver, a youngling who does not flinch from mri."

Many humiliations had he accepted in dealing with the invading humans, in negotiations concerning arrangements, in accepting two inconvenient observers whose presence, if known, could cause impossible complications with the mri treaty. He had succeeded in handling the humans, which was thought to have been the most difficult matter; he had outmaneuvered them in a way that would bring him prestige. And now it came to this, that he must interrupt the saving of regul lives and regul properties to counsel with mri hirelings, to rescue an ungrateful people who most likely would not treat with him courteously for his efforts.

A thought struck him. "Hada," he said.

"Favor?"

"Is it or is it not possible that the mri would know that one of their ships is coming?"

"That information has not been released by this office," said Hada. Then: "Be gracious, bai. Mri have learned things before this that have not been released by this office. They have their own communications."

"Doubtless," said Hulagh, and broke the connection and went about the laborious and painful business of rising. He was two hundred ninety years removed from the class of younglings. His legs

were proportionately shorter, his senses duller, his body many times heavier. His rugose skin was prone to cracking and developing sores when directly exposed to the dry cold of Kesrith's air. His double hearts labored under the exertion of lifting his adult bulk, and his muscles trembled with the unaccustomed strain. As an elder of the regul, his principal business was of the mind and the intellect.

And he was reduced to this, to visit mri.

XII

The mri edun hove into view: a set of truncated, common-based cones, ominously alien and located, inevitably, in the most inconvenient and inaccessible place available. Hulagh settled uneasily into his cushions in the rear of the landsled and saw it grow nearer. Built of the soil of the mineral flats, cemented and dull-surfaced, it was of a color with the earth but startling to the eye and forbiddingly sterile in its outlines. It wasted space with its slanting walls—but then, mri never did anything the simple way. It was, he reflected, indicative of the mri mind, non-utilitarian, alien in its patterns, deliberately isolate.

The sled labored in the climb up the causeway which the rains, that other of Kesrith's terrestrial nuisances, had left in ill-repair, dissolving the salts that lay in thick deposits hereabouts, and creating alarming channels in the earth and rock of the road. On either side lay a fatal plunge to the thin crusts of the flats, volcanic and constantly steaming at one or another vent.

Hulagh tried not to think of the depths that lay beside the treads of the sled as it ground its way over a series of ruts that had almost eaten the road away.

Mri did not choose to repair it. Old they might be, but even if they were physically capable, they would have disdained to do so, not as long as there remained onworld a single regul on whom to cast the responsibility. The road would wash away before mri would stir to mend it, and there was no intention in Hulagh's mind to better it for human benefit.

He only hoped it would suffice to carry him to and from, and that once only.

The car jolted up the last few feet of incline and came to the main entry of the edun. The structure itself was in similar disrepair, already yielding to the rains that would claim it in the end, that would reduce it to the white earth again. The slanted walls bore dim traces of colors that must once have made them bright.

He had seen pictures of edunei but he had never seen one in reality, let alone one in such a state. This was surely an ancient structure, and sadly declined. Mri were usually more proud. Even the front walk was guttered with erosion channels; and with the sled grinding to a halt, bai Hulagh looked on that irregular surface with dread. It was a long walk, a difficult walk, on soft ground.

And there was a dus guarding the entry, a massive brown lump—all wrinkles and folds of flesh rising to a hump at the shoulders and descending at either end. It seemed to

be asleep, resting with its back a quarter as high as the door, and higher by more should it stir, which Hulagh fervently hoped it would not do. Dusei were wherever mri traveled, but on ship they kept entirely to the kel'en's cabin and were not allowed to range the premises. He had never encountered one at close range; he had let his younglings tend to that unpleasantness. He knew only what he had heard: that while mri were legally class-two sapients on a scale that rated regul as one, dusei were tentatively classed at ten, although many who had dealt with the frustrating creatures reckoned that dusei should be considerably higher or lower. They were Kesrith's native dominant species—he knew this too—and although they ran wild wherever mri had been for long, this was their origin. They were a plague in the wilds of whatever world they adopted, and they were dangerous. There were surely wild ones now prolific in the hills and plains—slow, patient omnivores, a gift such as regul gladly bestowed on the humans.

Mri purchased with their service food to feed their dusei, which accordingly haunted their dwellings and accompanied them into space; but dusei did nothing, contributed nothing, did not fight unless cornered, and were never eaten. Their only visible benefit was that to keep them nearby pleased the mri, who apparently derived some social status among their own kind for the keeping and support of such useless and expensive creatures. Hulagh himself collected gems, stones, geological curiosities. He attempted

to comprehend the mentality of the mri, who treasured such live and dangerous specimens.

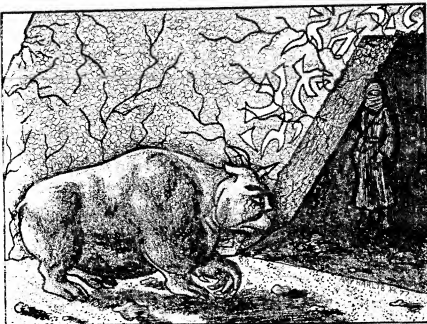
This one in particular looked diseased. Its hide was patched and its attitude was more sluggish than was natural even for a dus. It had not so much as lifted its head as the land-sled drew up at the walk.

The sight of the ugly creature did more than the decay of the edun itself to distress Hulagh's aesthetic sense. He looked at it, and did not wish to look, as he forced his considerable bulk from the confines of the sled and waited for his driver, one Chul Nag-gi, to assist him up the walk. Chul also seemed to regard the dus with distaste, and as they walked together toward the step, Chul dutifully walked on the side nearest the creature and kept a constant eye on it. The dus lifted its head to investigate them as they came to the doorway. Its eyes were running and unhealthy looking.

Perdition, thought Hulagh uneasily, the thing is dying of disease on their doorsill, and will they not destroy it?—for the sake of hygiene, if not mercy.

The dus investigated them, snuffling wetly, and emitted a strange sound, a low rumbling and whuffing that was not pleasure and not quite menace. "Away!" Chul exclaimed in a voice tinged with panic. Hulagh edged past with all possible speed while Chul fended the creature away with a violent kick. Chul overtook him just inside the dark door and offered an arm once more, whereupon they began the long walk together.

A mri saw them and vanished, a black shadow among shadows, and



none offered to guide them. Hulagh needed no guidance. He had become acquainted before they left the Nom with the plan of edunei, which was universal. He knew the general design of the ground level and where the fourth cone of the she'pan ought to sit, and to this cone he walked slowly, panting, struggling as the approach offered. to his horror, stairs, winding up and up toward the crest.

A shout echoed from above. Yet he saw no one and came at his own agonized pace, step by step, past mud-plastered walls cheaply decorated with rough designs or symbols, so irregularly and stylistically painted that they seemed impossible of decipherment even if one knew the mri system. Designs in black and gold and blue serpentine around the windings of the corridor

upon walls and ceilings. They might be religious in nature—this was another thing the mri had never revealed—intended to avert evils or call them down on intruders; or perhaps the mri simply thought them beautiful. It was difficult to reconcile this with the modern lighting and the other evidences of mri sophistication with regul machinery, almost unbelievable that a people that could handle starflight yet lived in this primitive manner.

The doors that shielded the hall where the she'pan would hold state—most of the doors in the edun, in fact—were steel, of regul manufactory; and steel likely reinforced the mud-and-binder architecture.

"They do not mind furnishing their mud hovels with good regul metal," Chul said, an undertone,

but the youngling saved its comments for itself when Hulagh gave it a hard look; the acuity of mri hearing was legendary.

"Open the door," said Hulagh.

And when Chul had done so, the youngling gave a sharp intake of breath, for there was a mri directly confronting them, a black-veiled kel'en, a mere youngling himself: Hulagh reckoned so, at least, by the unmarred brow and clear golden skin. He was grim, impudent, barbarous, a golden man bedecked in black and weaponry, with warlike gear that even included the archaism of a long knife at his belt. Hulagh was minded instantly and painfully of Medai, who had been such as this. It was like meeting a ghost.

Youngling fronted youngling, and it was the regul that backed a pace, displaying a weakness that sent a wave of angry heat to Hulagh's head.

"Where is the she'pan?" Hulagh asked sharply, embarrassed by his driver's discomfiture and seeking to recover regul dignity. "Young mri, get out of the door and call someone of authority. You were advised that I would call on the she'pan."

The mri turned neatly on his heel and walked away, silent, graceful, disrespectful. Mri warrior. Hulagh hated the whole breed. They were utterly unmannered as a nation, and encouraged this arrogance in their younglings. The youth, like the whole edun, stank of incense. The odor lingered in the air and Hulagh fought a tendency to sneeze, to clear his violated air passages. His legs were shuddering from the long climb upstairs. He walked in and bent his knees and lowered his

heavy body the necessary small degree to sit on the carpet. Mri furniture, of which there was only the she'pan's chair of honor and two benches near the entry, was too high and too fragile for an adult regul; nor could a regul stand and bear his own weight for any length of time.

In proper courtesy the youngling should have summoned some of mri kind to bring furniture apt for him; but this was a very poor edun by all evidences, and perhaps unused to regul callers at all. The carpets were at least clean.

Shouting echoed in the depths of the hall beyond the partition that screened the privacies of the central chamber. Hulagh mentally winced at the unseemliness of this behavior, and Chul stirred uneasily. In a moment more the room began to admit other warriors, veiled and armed as the first.

"Bai," said Chul. There was fear in its tone. Hulagh dealt it a foul look: ignorant, this youngling. The mri, while graceless and arrogant, were still subjects of the regul, and they were subjects by choice, not by compulsion. Mri were many things, and they were unpleasant, but they were not dangerous, at least not in the personal sense—not to regul.

Several dusei wandered in, heavy-boned heads low to the carpet, looking as if they had lost something and forgotten just what it was. They settled their great bulks into a corner and lowered their heads between their paws and watched, their tiny, almost invisible, eyes glittering. One rumbled an ominous sound, then quieted as a

kel'en settled against him, using the broad, wrinkled shoulder for a back-rest.

The sneeze came, unexpected and violent. Hulagh contained it as best he could. None of the mri affected to notice this terrible breach of etiquette. He counted those present. There were eleven, and nine of these were veiled: males, and perhaps a female, of the Kel. One young female was unveiled, robed in gold; and with her was one of the oldest, a presumable male, of the gold-robed caste. They were the only mri whose faces he had ever seen. He could not help staring, amazed at the graceful delicacy of the young female.

Odd, Hulagh reflected, that this backward species sexed when young and aged into sameness. He stored that thought away for further pondering, did mri chance to survive this era and remain relevant to the living.

And with a soft rustling, the she'pan herself arrived, leaning on the arm of the young kel'en; she settled among them, in her chair, veiless. She was also very, very old and, Hulagh thought, although he was not sure, that she had been disfigured on one side of her face. Young mri were smooth-skinned and slim, and the young woman's hair shone in the light like textured bronze, but the she'pan's was faded and brittle; and on the side with the apparent injury, it was dark at the temple.

The young warrior knelt at her side, golden eyes darting mistrust and hostility at the visitors. The she'pan's look contained the placidity of age and long, long experi-

ence, qualities that Hulagh valued; and he suddenly revised his opinion and reckoned that it might be better, after all, to deal with this aged female than with an intractable warleader—if she could indeed guide her people in areas other than the obscure mri religion.

She had no great awe of regul, this was plain enough; but neither was she hostile or slow-witted. Her eyes were quick and appraising. There was the look of higher sentience in them.

"She'pan," said Hulagh, persistent in proprieties, "we have made she were mri.

"Hulagh," she said, stripping him of titles.

His nostrils snapped shut, blew air in irritation. He remembered the presence of the youngling Chul at his elbow, Chul, whose witness he did not particularly want at this moment, and the heat of anger seethed in him as it had not in many sheltered years.

"She'pan," said Hulagh, persistent in proprieties, "we have made room for your people on our ship."

This was, basically, the truth. He had allotted space, which he had hoped would not have to be too extensive, and he had hoped for younglings, who could be civilized and molded anew under Alagn guidance; but he saw only two. He revised opinions quickly. These elders, it might be, would be able to control younger mri loose elsewhere, render them tractable perhaps—even gather a colony of mri in Alagn territory. He thought again of the young kel'en who had suicided and thought possibly it would not have happened had there

been an elder mri to provide that youngling with a proper perspective on his act.

If there were not that restraint and sense even in elders such as these, and if they could not have dissuaded him, then the whole of mri civilization had failed, and there was no rescuing it from itself.

"We would desire," he told the she'pan, "for you to board within the coming night."

The she'pan stared at him, neither joyed nor dismayed by that short notice. "Indeed, bai?"

"As soon as possible. We are at that stage of our loading."

The she'pan stared at him further and considered in silence. "And our dusei?" she asked.

"And the dusei, one for each," Hulagh painfully conceded, mentally deducting two times the resources that would have been necessary to accommodate the mri; he had hoped to take no dusei at all. But when he considered the matter, he reflected that the unpleasant beasts might keep the mri content, representing their wealth; and it was desirable that the mri remain content.

"We will consult upon the matter," said the she'pan, her hand on the shoulder of the young warrior who sat beside her; and at her other side, silent, settled the gold-robed young female.

"There is no time for lengthy consultations," Hulagh objected.

"Ah," said the she'pan, "then you have heard about the ship."

Blood drained from Hulagh's face, then slowly resumed its proper circulation. He did not look at the youngling, hoping that for once its

wits would prevent it from repeating this insult and humiliation elsewhere, among its youngling fellows. He had scant hope that this would be the case.

"Yes," said Hulagh, "we have naturally heard. Nevertheless, we are anxious to speed our departure. We are not familiar with this incoming ship but doubtless—" He stammered over the not-truth, compelled to lie, for the first time in his life, for the sake of regul, for the welfare of the younglings in his protection, and most of all, for his own ambitions and for the survival of his knowledge; but he felt foul and soiled in the doing. "—doubtless after you are aboard, we may intercept this ship of yours and divert it also toward the safety of our inner zones."

"Would you permit that?" The dry old voice, heavy with accent, was careful, devoid of inflections that could have betrayed emotion and concealed meanings. "Shall mri go to the regul homeworld at long last? You have never permitted us knowledge of its location, bai."

"Nevertheless—" He could not build upon the lie: He was not able to consummate this, the supreme immorality—to falsify, to lend to memory untruth, which could not be unlearned. He had witnessed this practice of aliens. He had watched them use it, amazed and horrified; he had seen that humans lied as a regular practice. He felt his skin crawl at the enormity of it, his throat contract when he tried to shape more to his fiction, and knew that if he refused to build upon it, it would not be believed at all; then he would be caught, lose credibil-

ity, with fatal consequences for the mri, with unfortunate result for the regul under his command, and for his own future.

If it were known on Nurag. . . .

But they were only mri, lesser folk; they had no memories such as regul had; and with them the lie could not live as it would among regul. Perhaps therein lay at least a lesser immorality.

"Nevertheless, she'pan," he said, controlling his voice carefully, "this is so. Matters are different now. We will not delay here as long as we had planned. We will board with all possible speed."

"Do you fear lest the humans should gain us?"

This came too near the mark. Hulagh sat still, looking at the she'pan and suspecting deeper things within her words. Mri were, like regul, truthful. He had this on the tradition of all his predecessors who had made the records that he had learned, on an ancestry that made records on the truth of which all the past, and therefore all the future, depended.

Had the ancestors also been tempted to lie, to play small games with truth and reality?

Had they in fact done so? The very doubting increased the pace of Hulagh's overtaxed hearts, pulled the foundations from beneath his firmest beliefs and left everything in uncertainty. Yet in spite of this tradition of the ancestors, a bai now lied—to save lives, for a good cause and the welfare of two species. But the truth had been altered, all the same, and now the lie shaped truth to cover it.

"We are anxious," said Hulagh,

wading deeper into this alien element, "that you be safe from humans. We are anxious to speed our own departure, for our safety's sake, and for yours. Our own younglings are at stake, and myself, and my reputation, and I am extremely valuable in the eyes of my people, so you may know that we will take unusual care to ensure the safety of this particular ship. If you wish to go with us, and I advise it, she'pan, I strongly advise it, then prepare your people to embark at once."

"We have served regul," said the she'pan, "for two thousand years. This is a very long service. And scant have been the rewards of it."

"We have offered you what you ask, and more. We have offered you technicians that would give you all the benefits of our experience; we have offered you our records, our histories, our technology."

"We do not," said the she'pan, "desire this knowledge of yours."

"It is your own misfortune then," said the bai. He had met this stupidity in mri before, in Medai. "She'pan, you keep to your own dwellings and to ships, but they are regul-built ships. Even your weapons are regul-made. Your food is produced by regul. Without us you would starve to death. And yet you still affect to despise our knowledge."

"We do not despise your knowledge," said the she'pan. "We simply do not desire it."

Hulagh's eyes strayed past her shoulder to the chamber itself, a gesture of contempt for the conditions in which the she'pan held

state: rooms barely sanitary, halls innocent of amenities and decorated with that frighteningly crude and powerful art of symbols, the meaning of which he doubted even the mri remembered. They were superstitious folk. If ill or injured, mri would turn from regul help and die rather than admit weakness, desiring only the presence of other mri or the presence of a dus. This was their religion at work.

Usually they died, all the same. *We are warriors*, regul had heard often enough, *not carriers of burdens, sellers of goods, practitioners of arts*. Medicine, engineering, literature, agriculture, physical labor of any sort—all these things the mri despised.

Animals, Hulagh thought, *plague and pestilence, they are nothing but animals. They enjoy war. They have deliberately prolonged this one in their stupidity. We ought never to have unleashed them in war. They like it too well.*

And of the youth, the arrogant young kel'en who sat by the she'pan's knee, he asked: "Youngling, would you not wish to learn? Would you not wish to have the things that regul enjoy, to know the past and the future and how to build in metals?"

The golden eyes nictitated, a sign of startlement in a mri. "I am of the Kel," said the young warrior. "And education is not appropriate for my caste. Ask the Sen."

The young woman in gold looked on him in her turn, her unveiled face a perfect mask—infuriating to him—expressionless. "The Sen is headed by the she'pan. Ask the she'pan, bai, whether she desires

your knowledge. If she bids me learn, then I will learn what you have to teach."

They played with him: games of ignorance, mri humor. Hulagh saw it in the eyes of the she'pan, who remained motionless through this circular exchange.

"We know," said the she'pan finally, "that these things have always been available for us. But the rewards of service that we desired were other than what you offer, and of late they have been scant."

Enigmas. The mri cherished their obscurities, their abstruseness. There was no helping such people. "If one of you," Hulagh said with deliberate patience, "had ever deigned to specify what rewards you sought, then we might have found the means to give them to you."

But the she'pan said nothing to this, just as the mri had always said nothing on this score. *We serve for pay*, some had said scornfully, similarly questioned, but they ignored the truth of the whole; and this she'pan, like her ancestors, said nothing at all.

"It would be a comfort to my people," said Hulagh, trying that ancient ploy, the appeal to legalities of oath and to mri conscience, and it was partly truth at least. "We are accustomed to the protection of mri with us. We are not fighters. If even one or two mri should be on the ship as we leave, we would feel safer in our journey."

"If you demand a mri for your protection," said the she'pan, "I must send one."

"She'pan," said Hulagh, attempting again to reach some point

of reason, forgetful of his dignity and the watching eyes of Chul. "Would you then send one, alone, without his people, to travel as far as we are going and without the likelihood of return? This would be hard. And what is there possibly in these regions to detain you once we have gone?"

"Why should we not," asked the she'pan, "bring our own ship in your wake . . . to Nurag? Why are you so anxious to have us aboard your own, bai Hulagh?"

"We have laws," Hulagh said, his hearts pounding. "Surely you realize we must observe cautions. But it will be safer for you than it is here."

"There will be humans here," said the she'pan. "Have you not arranged it so?"

Hulagh found nothing in his vast memory with which to understand that answer. It crawled uneasily through his thoughts, rousing ugly suspicions.

"Would you," Hulagh asked, compelled to directness, "change your allegiance and serve humans?"

The she'pan made a faint gesture, one meaningless to a regul. "I will consult with my Husbands," she said. "If it pleases you, I will send one of my people with you—if you demand it. We are in service to the regul. It would not be seemly or lawful for me to refuse to send one of us with you in your need, O Hulagh, bai of Kesrith."

Now, now came courtesy; he did not trust this late turn of manners. Although mri could not lie, neither had he thought that he could lie, before this conference and his moment of necessity, which had been spent

all in vain. Mri might indeed not lie, but it was unlikely that the she'pan was without certain subtleties, and possibly she was laughing within this appearance of courtesy. And the Kel was veiled and inscrutable.

"She'pan," he said, "what of this ship that is coming?"

"What of it?" echoed the she'pan.

"Who are these mri that are coming? Of what kindred? Are they of this edun?"

Again the curious gesture of the hand before it returned to stroke the head of the young female that leaned against her knee.

"The name of the ship, bai, is *Ahanal*. And do you make formal request that one of us accompany you?"

"I will tell you that when you have consulted with your Husbands and given me the answers to other questions," said Hulagh, marking how she had turned aside his own question. He smoldered with growing anger.

These were mri. They were a little above the animals. They knew nothing and remembered less, and dared to play games with regul.

He was also within their territory, and of law on this forsaken world, he was the sole representative.

For the first time he looked upon the mri not as a comfort, not as interestingly quaint nor even as a nuisance, but as a force like the dusei, dull-wittedly ominous. He looked at the dark-robed warriors, their stolid indifference to the regul authority that had always commanded them.

For mri to challenge the will of the regul—this had never happened,

not directly, not as long as mri had served the varied regul docha and authorities; Hulagh sorted through his memory and found no record of what mri conduct had been like when it was not a question of traditional obedience. This was that most distasteful of all possible situations, one never before experienced by any regul on record, one in which his vast memory was as useless as that of a youngling, blank of helpful data.

Regul in the throes of complete senility sometimes claimed sights of memories that were yet in the future; they saw things that had not yet been and on which there could not possibly be data. Sometimes these elders were remarkably accurate in their earliest estimations, possessing an accuracy that disturbed and defied analysis. But the process then accelerated and muddled all their memories, true and not-yet-true and never-true, and they went mad beyond recall. Of a sudden Hulagh suffered something of the sort, projected the potentials of this situation and derived an insane foreboding of these warlike creatures turning on him and destroying him and Chul at once, rising against the regul docha in bloody frenzy. His two hearts labored with the horror not only of this image but of the fact that he had perceived it at all. He was three hundred and ten years of age. He was bordering on decline of faculties, although he was now at the peak of his abilities and looked to be so for decades more. He was terrified lest decline have begun, here, under the strain of so much strangeness. It was not good for an old

regul to absorb so much strangeness at once.

"She'pan," he said, trying the last, the very last, assault upon her adamancy. "You are aware that your ill-advised delay may make it impossible in the end to take any of your people aboard to safety."

"We will consult," she said, which was neither aye nor nay, but he took it for absolute refusal, judging that he would never in this world hear from the she'pan, not until that ship had arrived.

There was something astir among mri, something that involved Kesrith and did not admit regul to the secret; and he remembered the young kel'en who had suicided when he was denied permission to leave, he who would have borne the news of human presence to the she'pan already had he been allowed off that ship; and there was that perversity in mri that, deprived of their war, foretold they might be capable of committing racial suicide, a last defense against humans who came to claim this world; and when humans met this defense, they would never believe that the mri were acting alone. They would finish the mri and move against regul: another foresight, of horrid aspect.

Mri would retreat only under direct order, and if they slipped control, they would not retreat at all. Of a sudden he cursed the regul inclined to believe the mri acquiescent in this matter: Gruran, who had passed him this information and caused him to believe in it.

He cursed himself, who had confirmed the data, who had not considered mri as a priority, who had

been overwhelmingly concerned with loading the world's valuables aboard *Hazan*, and with managing the humans.

Hulagh heaved himself up, found his muscles still too fatigued from his long climb to manage his weight easily, and was not spared the humiliation of having to be rescued from collapse by the youngling Chul, that flung an arm about him and braced him with all its might.

The she'pan snapped her fingers and the arrogant young kel'en at her knee rose up easily and added his support to Hulagh's right side.

"This is very strenuous for the bai," Chul said, and Hulagh mentally cursed the youngling. "He is very old, she'pan, and this long trip has tired him, and the air is not good for him."

"Niun," said the she'pan to her kel'en, "escort the bai down to his vehicle."

And the she'pan rose unaided and observed with bland face and innocent eyes as Hulagh wheezed with effort in putting one foot in front of the other. Hulagh had never missed his lost youth and its easy mobility; age was its own reward, with its vast memory and the honors of it, with its freedom from fear and with the services and respects accorded by younglings; but this was not so among mri. He realized with burning indignation that the she'pan sought this comparison between them in their age, furnishing her people with the spectacle of the helplessness of a regul elder without his sleds and his chairs.

Among mri, light and quick, and mobile even in extreme age, this weakness must be a curiosity.

Hulagh wondered if mri made jest of regul weakness in this regard as regul did of mri intelligence. No one had ever seen a mri laugh outright, not in two thousand two hundred two years. He feared there was laughter now on their veiled faces.

He looked on the face of Chul, seeking whether Chul understood. The youngling looked only bewildered, frightened; it panted and wheezed with the burden of its own and another's weight. The young mri at the other side did not look directly at either of them but kept his eyes respectfully averted, a model of decorum, and his veiled face could not be read.

They passed through the steel doors and entered the dizzying windings of the painted halls, going down and down with agonizingly painful steps. For Hulagh it was a blur of misery, of colors and cloying air and the possibility of a fatal fall; and when they finally reached level ground, it was blessed relief. He lingered there a moment, panting, then began to walk again, leaning on them step by step. They passed through the doors and the stinging, pungent air outside came welcome, like the hostile sun. His senses cleared. He stopped again and blinked in the ruddy light and caught his breath, leaning on them both.

"Niun," he said, remembering the kel'en's name.

"Lord?" responded the young mri.

"How if I should choose you to go on the ship with me?"

The golden eyes lifted to his, wide and, it seemed, frightened. He

had never seen this much evidence of emotion in a mri. It startled him.

"Lord," said the young mri, "I am duty-bound to the she'pan. I am her son. I cannot leave."

"Are all of you not her sons?"

"No, lord. They are mostly her Husbands. I am her son."

"But not of her body, all the same."

The mri looked as if he had been struck, shocked and offended at once. "No, lord. My truemoth is not here any more."

"Would you go on the ship *Ha-zan*?"

"If the she'pan sent me, lord."

This one was young, without the duplicities, the complexities, of the she'pan; young, arrogant, yes, but such as Niun could be shaped and taught. Hulagh gazed at the youthful face, veiled to the eyes, finding it more vulnerable than was the wont of mri. It was rudeness to stare but Hulagh took the liberty of the very old among regul, who were accustomed to be harsh and abrupt with younglings.

"And if I should tell you now, this moment, to get into the sled and come with me?"

For a moment the young mri did not seem to know how to answer; or perhaps he was gathering that reserve so important to a mri warrior. The eyes above the veil were frankly terrified, agonized.

"You might be assured," Hulagh said, "of safety."

"Only the she'pan could send me," said the young kel'en. "And I know that she will not."

"She has promised me one mri."

"It has always been the privilege of the edun to choose which is to

go and which is to stay. I tell you that she will not let me go with you, lord."

That was plainly spoken, and the obtaining of permission through argument would doubtless mean another walk to the crest of the structure, and agony, and another debate with the she'pan, protracted and infuriating and uncertain of issue. Hulagh actually considered the idea but rejected it, then looked on the young face, trying to fix in mind the details that made this mri different from other mri.

"What is your name, your full name, kel'en?"

"Niun s'Intel Zain-Abrin, lord."

"Set me in my car, Niun."

The mri looked uncertainly relieved, as if he understood that this was all Hulagh was going to ask of him. He applied his strength to the task and with Chul's considerable help, they slowly, carefully, with great gentleness, lowered Hulagh's weight into the cushions.

Hulagh breathed a long sigh of exhaustion and his sight went dim for a moment, the blood rushing into his head. Then he dismissed the mri with an impatient gesture and watched him walk back to the doorway, agile over the eroded walk. The dus by the door lifted its head to investigate, then suddenly curled in the other direction and settled, head between its forelegs. Its breath puffed at the dust. The young mri, who had paused, vanished into the interior of the edun.

"Go," said Hulagh to Chul, who switched on the vehicle and set it moving in a lumbering turn. And again: "Youngling, contact my

office and see if there are any new developments."

Hulagh thought uneasily of the incoming ship, distant as it surely was, and of everything that had seemed so simple and settled this morning. He drew a breath of the comfortably filtered and heated air within the vehicle and tried to compose his thoughts. The situation was impossible. Humans were about to arrive; and if humans perceived mri near Kesrith and suspected treachery or ambush, they could arrive sooner. They could arrive very much sooner.

Without a doubt there would be confrontation, mri and human, unless he could rid Kesrith and Kesrith's environs of mri by one method or another; and of a sudden reckoning she'pan Intel into matters, Hulagh found himself unable to decide how things were aligned with mri and regul.

Or with mri and humans.

"Bai," came Hada Surag-gi's voice over the radio. "Be gracious. We have contacted the incoming mri ship directly. They are *Ahanal*."

"Tell me something I do not already know, youngling."

There was a moment's silence. Hulagh regretted his temper in the interval for Hada had tried to do well, and Hada's position was not enviable: a youngling trying to treat with mri arrogance and a bai's impatience.

"Bai," said Hada timidly, "this ship is not based on this world but they are intending to land. They say . . . bai . . ."

"Out with it, youngling."

". . . that they will be here by

If your husband had a Heart Attack in bed tonight, would you know what to do?

It may go on for a little while before you notice. He may say it's indigestion. Or nerves. He may have a feeling of uncomfortable pressure, fullness, squeezing or pain in the center of his chest (that may spread to the shoulders, neck or arms) which lasts for two minutes or more.

Dizziness, fainting, sweating, nausea or shortness of breath may also occur, but these signals are not always present. Sharp, stabbing twinges of pain are usually *not* signals of a heart attack.

Call your emergency medical service immediately. Or, if you can get him to a hospital with emergency cardiac care faster in any other way, do so.

He may refuse to accept the possibility that he is having a heart attack. Many heart attack victims do just that. Don't let him make you wait. Because seconds count. Get help and get it fast.

Remember, if it isn't a heart attack, it doesn't matter. If it is, nothing matters more.

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sunfall, over Kesrith's city tomorrow. They have arrived close, dangerously close, bai. Our station was monitoring the regular approaches, the lanes—but they ignored them."

Hulagh blew his breath out softly and refrained from swearing.

"Be gracious," said Hada.

"Youngling, what else?"

"They rejected outright our suggestion they dock at the station.

They want to land at the port. We disputed their right to do so under the treaty and explained that our facilities were damaged by the weather. They would not hear. They say that they have need of provisioning. We protested they could obtain this at the station. They would not hear. They demand complete re-provisioning and re-equipment of a class-one vessel with armaments, as on war status. We protested that we could not do these things. But they demand these things, bai, and they claim . . . they claim that they number in excess of four hundred mri on that ship."

A chill flowed over Hulagh's thick skin.

"Youngling," he said, "in all known space there are only five hundred thirty-three of the species known to survive, and thirteen of those are presently on Kesrith and another is recently deceased."

"Be gracious," pleaded Hada. "Bai, I am very sure I heard accurately. I asked them to repeat the figure." He paused. Then, "It is possible," he added in a voice trembling and wheezing with distress, "that these are all the mri surviving in the universe."

"Plague and perdition," said Hulagh softly, and he reached forward to prod Chul in the shoulder. "The port."

"Bai?" asked Chul, blinking.

"The port," Hulagh repeated. "O young ignorance, the port. Make for it."

The car veered off left, corrected, followed the causeway the necessary distance, then turned left along the passable margin of the city,

bouncing over scruh, presenting occasionally a view of the pinkish sky and the distant mountains, Kesrith's highlands, and then revealing white, barren sands and the slim, twisting trunks of scruh luin.

To this the humans fell heir.

Good riddance to them.

He began to think again of the mri that had suicided and, with repeated chill, of the remaining mri that had by that time already tended toward Kesrith—all the mri that survived anywhere, coming to their homeworld, which was falling to the control of humans.

Coming to die?

He wished he could trust it were so simply final. To stop the humans; to breathe life into the war again; to ruin the peace and the regul at once, and then, being few, to die themselves and leave the regul species at the mercy of outraged humans: This was like the mri.

He began to think, his double hearts laboring with fear, of what choice he had in dealing with the mercenaries; and as he had never lied before he dealt with mri, so he had never before contemplated violence with his own hands; for this the mri had been hired as intermediaries.

The sled made a rough turn toward the port gate, bouncing painfully over ruts. The disrepair was evident even here.

He saw with utter apprehension that clouds had gathered again over the hills beyond the city.

TO BE CONTINUED

★ ★ ★



GALAXY

BOOKSHELF

Paul Walker

The View from Serendip by Arthur C. Clarke. Random House. New York 1977. 273pp. \$8.95.

Dying of the Light by George R.R. Martin. Simon and Schuster. New York 1977. 365pp. \$9.95.

Companions on the Road by Tanith Lee. St. Martin's Press. New York 1977. 222pp. \$8.95.

All My Sins Remembered by Joe Haldeman. St. Martin's Press. New York 1977. 184pp. \$7.95

* * *

Arthur C. Clarke: Captain, I must apologize again for stowing away aboard your ship. It was just that, at my age, I was des-

perate to see space.

Captain: Tut-tut. It is a bit of a problem, but I can dispose of it.

Clarke: If there's anything—

Captain: As a matter of fact, there is. May I have your autograph?

Clarke: Why, of course. Only—I didn't write "The Cold Equations." It was—

Captain: Tom Godwin, I know. But, somehow, I thought it would be appropriate. Now, Mr. Clarke, if you would be so kind as to step this way . . .

Title: A Complete, Unabridged, Unexpurgated, and otherwise wholly intact Review of Arthur C.

Clarke's *The View from Serendip*, subtitled, "Speculations on Space, Science, and the Sea, Together with Fragments of an Equatorial Autobiography."

Prolog: Arthur C. Clarke's *The View from Serendip*: etc. etc. etc. is not really worth reading. But it did tell me a few things I would like to pass along to you.

Chapter I: Consumer Tips

Is that novel you just bought, really a novel? Is that book of essays, really a book of essays? Do you give a damn? If so, before you buy, check the copyright page. That novel may actually be a collection of short stories, or that book of essays, a collection of hack journalism.

If the original sources for the stories or articles were magazines like *Vogue* and *Playboy*, don't expect much. The same is true of newspapers, or popular science magazines, with the exception of the *New York Times*. If the original sources were speeches, shudder quietly and steal away.

The View from Serendip is composed entirely of such things, tied together with a not very interesting autobiographical commentary to create the appearance of a book.

Let's get this straight: I am an incorrigible Clarke fan. Of his fiction, that is. The few times I have tried to read his non-fiction, I have gotten about ten pages. In *The View from Serendip*, I read all 273 pages, and about halfway I had the image of myself as a cartoon character who inadvertently stuck his head into a garbage can only to have it struck violently with a hammer, leaving

his head vibrating like a bell. Such was the boredom of it.

Of course, Clarke is not a boring man. When he sticks to hard facts or descriptive writing, he is actually interesting, but most of this book consists of rhapsodic sermons on the future promise of technology that are tediously repetitious. And when he talks of skin diving or his beloved Ceylon, he talks more like a p. r. man than an observer.

There is a good book here, but he has not chosen to write it. The autobiographical fragments that link the hack-work articles are deliberately, and irritatingly, personable. Clarke is unlike any other Englishman I have ever read. I mean, one expects a high degree of disdain for personal "likeableness" from the English. They impress rather than beguile. But Clarke is too anxious we should think of him as "a regular guy". And he succeeds only to the extent that we can't help thinking of him as a bit of an ass.

He has, to use his own words, a "schoolboy humor" that would be better suited to a fanzine than a professional work. He drops names, all of whom are "very dear friends," and quotes himself, even before congressional committees, shamelessly. And he can be embarrassingly naive as when he says of space flight:

"There may be setbacks—perhaps even disasters—in the years ahead; it is unreasonable to suppose that the conquest of a new and strange environment will not demand its toll. But men have never hesitated to pay the price, in blood as well as treasure, of exploration and discovery. Nor will they hesi-

tate now, as they stand, for the second time in a thousand years, on the frontiers of a new world."

I can just see a NASA executive chewing his fingernails as he reads that one.

Or: "... there can sometimes be a total transformation (of life styles) literally overnight... who would have dared to predict, as recently as 1965, that by the beginning of the seventies, the President of the United States would visit Peking, the American Medical Association would be debating the legality of marijuana, abortion would be respectable, total stage and screen nudity would have started to become boring... and the yen would be mightier than the dollar?"

To anyone living outside the States, or in a great metropolitan area, it might seem as if these things did constitute "a total transformation;" but to anyone closer to the situation, it is simply not so. Had Kennedy been a Republican, he could have gone to Peking. Had Nixon been a Democrat, we might still be in Vietnam. The legality and morality of marijuana are accepted primarily by those parents whose children use it and porn is as profitable as ever (no one but adolescents and sexologists ever found it anything but boring). In any case, what Clarke sees as overnight change is more a matter of fashion than of substance. Societies do not change uniformly, and changes that seem radical at the moment usually have a long history of having gone in and out of fashion throughout the centuries.

Or:

"What we are seeing now—

largely as a result of space technology—is the establishment of supernational, global-service organizations in which all governments, in their own sheer self-interest, will simply *have* to cooperate."

But governments have always cooperated in their own sheer self-interest. There has never been a war that did not involve the cooperation of two or more previously at-odds governments. But "all governments" cooperate with one another? For what ends? "For education," Mr. Clarke would respond. "For the welfare of their people." Really? I can think of other possibilities myself. In any event, educational cooperation would not preclude hostilities.

The problem with supernational global service organizations, whether they are educational or economic, is that they represent the ultimate form of imperialism; for whoever dominates the technology of the organization is in a position to impose their values upon the rest of the world—whether they mean to or not. And the cultural consequences of the imposition of one society's values upon a very different culture are invariably unpleasant, not only for the society, but for the world.

Still, I am not opposed to the idea. Or to any of Clarke's ideas *per se*. I simply want to show from these quotes how simplistic Clarke's thinking is.

By far, the most embarrassing exchange is between Clarke and a Congressman Downing during hearings of the House Committee on Space Science.

Downing says, "I want to know

how, in your opinion, do we best sell the space program to the American taxpayer, as we go into the less-dramatic phases of the space program?" (Who says politicians equivocate?)

To which Clarke responds, "One thing will help you: when the first real space products start hitting the market . . . when people start seeing—as I think they will in the next decade—products which are literally made in space, they'll begin to understand."

Want to bet?

Clarke's problem here as everywhere is he thinks of people monolithically. "All people", "all governments". Why was the space program ultimately a bore? In my opinion, it never was. Certainly the news coverage of it was boring. If the newsmen had simply left the mikes open, and the cameras running, and hardly said another word except to explain a thing or two, I suspect millions of Americans would have stayed up sleeplessly night after night just watching and listening, utterly fascinated. Instead, they felt compelled to make it interesting, to give the impression at all times that "something" was happening. That was what made it so boring.

Historical events speak for themselves and are best left to speak for themselves alone. Like great books or other works of art, they may have long tedious stretches, but cumulatively, their fascination is overwhelming.

Science itself is like that. It too speaks for itself. But not everyone cares for what it has to say. In past months, I have read or heard im-

passioned pleas from musicians and composers and poets and critics and physicists and ballet dancers and marine biologists and ecologists and God-knows how many others all decrying the public's lack of wholehearted attention. And money. For according to these people their discipline, and their discipline alone, is the key to world peace, and all men will never be brothers until they learn all there is to know about it.

But what does it mean to learn enough about a thing? Victor Borge put it succinctly. When asked how long it had taken him to learn to play the "Minute Waltz," he replied, "Fifteen years."

That's about the size of it, pilgrim.

★ ★ ★

George "Rage Rage" Martin's Forlorn Worlorn

I liked George R.R. Martin's *Dying of the Light* very much. I recommend it wholeheartedly to all hard-sf fans. I predict it will be nominated for a Hugo. I might even vote for it myself. And if it is an especially bad year for sf, I would not be surprised if it won.

The novel does have its faults. Perhaps more of them than it has virtues; but when I come across passages like:

Other plant life was scarce, except for beds of black and violet mushrooms near the feet of the yellow trees, and ropes of parasitic scumweb.

But there were animals.

Dirk saw them moving through the dark twistings of the chokers and heard their high, chittering call. Finally he saw one. Sitting just above their heads on a swollen yellow branch, looking down on them; fist-sized, dead still, and somehow—transparent. He touched Gwen's shoulder and nodded upward.

But she just smiled for him and laughed lightly. Then she reached up to where the little creature sat and crumpled it in her hand. When she offered it to Dirk, her palm held only dust and dead tissue.

"There's a nest of tree spooks around," she explained. "They shed their skins four or five times before maturity and leave the husks as guards to scare away other predators." She pointed. "There's a live one if you're interested."

Dirk looked and caught a fleeting glimpse of a tiny yellow scampering thing with sharp teeth and enormous brown eyes. "They fly too," Gwen told him . . .

Or:

"Jelly children," it seemed, was a popular nickname for the followers of a pseudo-religious drug cult on the World of the Blackwine Ocean. They were so called because they spent years at a time living in the cavernous inner dampness of kilometer-long gelatinous slugs that crept with infinite slowness along the bot-

tom of their seas. The cultists called the creatures Mothers. The Mothers fed their children with sweet hallucinogenic secretions and were believed to be semi-sentient.

As I was saying, when I come across passages like those, I'm sold, regardless of my other reservations. If only there were a dozen more of them . . .

Dying of the Light is an ambitious thematic novel that I would have to read at least once more to say with confidence what it was about. Let's say it is about dying gracefully, for everyone and everything in it is dying in one way or another.

The main protagonist is Dirk t'Larien. We first meet him on Avalon where he is dying of an empty life. He receives a message from his former love, Gwen, in the form of a "whisperjewel," a gem in which her words and feelings have been psionically etched. She needs him. He goes to her.

Gwen is an ecologist. She has married a man named Jaan Vikary of the planet High Kavallaan, a world whose customs require ritual dueling among its male inhabitants as well as the sharing of one's wife with one's "teyn" (something like a blood brother). Women have no rights whatever. They are property. "Beytheyn," which literally means "heldwife," implies no bond of affection. In fact, the Kavalars have no word for love.

The Kavalars are descendants of refugees who fled the "Double War" and the wrath of the tyrannical Hrangans and formed an isolated

and unpleasant little civilization which soon forgot its origins and substituted a male-oriented mythology, the nature of which Jaan Vikary, a historian, is only now beginning to discover.

t'Larien finds Gwen with Vikary and his teyn, Garse, a brutal but not insensitive man, on the planet Worlorn, a rogue world momentarily given life by its passage round a bright star cluster. For a while, Worlorn was a center of attraction, the setting for the great Festival of Worlds, in which many cultures built cities to show off their status. Now, it has begun to move away from the suns of the "Wheel of Fire" into eternal twilight, and it is all but deserted by humanity.

On a dying world then, Martin brings together a strange collection of people. t'Larien, whose only hope is a woman who does not love him. Gwen, the woman, who wishes to love both t'Larien and Vikary, and is thwarted by their inability to accept her as herself. Vikary, who wants her as much as t'Larien but must compromise his deepest principles to have her. And Garse and the other Kavalars who have come to the dying Worlorn to hunt the remaining humans, whom they regard as animals, "mockmen." They too are dying, as their culture is as moribund as Worlorn itself.

And then there is the curious, treacherous little Kimdissi, Ruark, who would be the puppeteer, playing one off against the other to gain his own ends. His fate, also, involves death.

If this sounds intriguing, it is, ultimately. If it also sounds rather

hokey and theatrical, it is that, too. Martin is not above cornball melodramatics as in:

She was weeping; slow tears moved trembling down her cheeks. Kyrne Lamiya (a city that sings) wept with her, the towers crying in their lament. But it mocked her too, as if to say, Yes, I see your grief, but grief has no more meaning than anything else, pain us as empty as pleasure. The spires wailed, thin gratings laughed insanely, and the low far-off drum went: boom, boom, boom."

P.U., P.U., P.Ü.

The trouble is that t'Larien is the least interesting character in the book. A sap and a victim from beginning to end. Gwen is a pain in the ass. And their interminable dialogues are repetitious, filled with ideological accusations, and breast-beating, soul-searching, self pity and self-righteousness. Two of the least appealing lovers in fiction.

By far, the most fascinating character is Jaan Vikary, a man of great integrity and sensitivity who has a problem worthy of Greek tragedy. If Martin had realized what he had in Vikary, he would have written a far better book, but as it is, Vikary pops in and out and is generally relegated to the shadows.

Garse and the Kimdissi rival one another for second place. They too have their problems involving love and loyalty, which are infinitely more interesting than t'Larien's.

Then, there is Worlorn itself. Absolutely fascinating in its potential, but given slight attention.

The problem is that Martin talks too much; or rather, his characters do. For almost the entire first hundred pages, there are nothing but lectures by one character after another on the nature of Kavalat society, which in itself, is less interesting than Worlorn in that what it ultimately amounts to is a deep space version of the Wild West with the brutal good guys versing the brutal bad guys. In fact, the plot of the novel itself is really a western with a big shootout at the end.

Martin has yet to master his craft, but for all his faults, he has the kind of imagination that makes science fiction worth reading. If he is sometimes tedious, he is never dull. If he is sometimes corny, he is never trite. And whenever his characters stop jabbering, and he describes the world around them, he comes instantly and vividly and excitingly to life.

Once more, for all its faults, the plot works in the end. It is an effective, affecting story, and Martin does persuade us to care for everyone eventually. If he is incapable of achieving the subtlety he aimed for, he does achieve a thrilling climax and a moving finale, both of which make the book more than just another promising first novel.

If you like Martin at all, you will like this.

And finally, I would like to say a word in praise of Haruo Miyauchi, who possesses the subtlety that Martin lacks. He has painted a cover for the novel that has me scratching my head yet. Is the figure in the cell looking out? Or are we in the cell looking in? Scratch, scratch, scratch.

Swords and Sorority

Tanith Lee is an Englishwoman. Born September 19, 1947. Raised and lives in London. Was a library assistant, worked at a variety of clerical jobs, attended an art college. She is unmarried. Her hobbies include painting, mythology, and archeology, and her musical favorites are Shostakovich and Prokofiev, which is good enough for me.

She has written a number of novels, but *Companions on the Road* is the first for me. A while back, when I had been away from sf for some time, the distinguished editor of this pulp called me to say he wanted to buy me a copy of her first novel, *The Birthgrave*, and I declined. An action which I now regret. Pierce's opinion is right more often than not, and he was very excited about Tanith Lee.

Now, I must add yet another "must" to my interminable list of "books to be read."

I loved *Companions on the Road*.

Let me make that perfectly clear. There are books I love that I am content to love for themselves alone. I may even forget the name of the author. But then there are books that I love not for themselves but for their authors, and *Companions on the Road* is one of them. If not for my duties to this column, I would immediately buy up all the Tanith Lee I could find and read nothing else until I had done.

And when I was finished, I suspect if anyone asked me to recommend just one of them I could not

do it. That's the way it usually works out. Not always, of course. I have sometimes loved a book by a writer I found otherwise unreadable. But that is rare.

Companions on the Road comprises two short novels published separately in England and wisely brought together by St. Martin's here in America. Which one did I like best? I don't know. I loved them both.

The title story is about three ill-fated survivors of a great battle in which the city Avillis was destroyed. The city was ruled by a Dark Lord and his two gruesome children who practiced black magic and human sacrifice. The chief instrument of their evil was a golden cup.

The hero of the piece is a noble young warrior named Havor who, together with a sneering, belligerent companion named Feluce, and a thief named Kachil, steal the cup and attempt to ride off into the sunset to enjoy their ill-gotten gains, thinking the Dark Lord and his siblings dead in the fire that consumed their castle.

Such, alas (as they say in these books), is not the case.

One by one, they are visited by lethal dreams until Havor alone remains, fleeing across the icy wilderness pursued by the evil trio.

It is what happens *next* that "made" the book for me.

The second, and equally good (if not better) short novel is "The Winter Players," in which a young priestess of a small and undistinguished shrine is visited by a mysterious warrior who demands one of the three sacred relics in her posses-

sion. She refuses. He returns. She fights. He wins by turning into a wolf and running off with the relic.

She is compelled to break a long tradition and leave her seaside village to go in pursuit. A pursuit she finds made dangerously difficult by the obstacles the warrior has put in her path, including telling everyone he meets that he is followed by a witch who must be killed on sight.

Toward the end she finds him, and discovers he is the least of her troubles; for she has a far more deadly enemy who is intent on using her for his evil ends.

Not bad. But it is what happens *next* that "made" the book for me.

I am not being facetious. Tanith Lee has one of those imaginations that takes that extra step writers must take to distinguish their work. She is unpredictable. So if what I have told you leads you think she is merely another sword-and-sorcerer, forget it. There is a whole other dimension of quality in her work that makes it the most promising I've seen since Le Guin's *Wizard* series.

Lee is quoted as saying she is interested in stories of horror and the supernatural with the idea that all people are capable of witchcraft if given enough impetus. And that pretty well sums up the psychology involved in both of these novels. No spectral rabbits pulled conveniently from black hats, but solid psychological groundwork.

Her writing is a bit too terse for me. I like my fantasy prose lavish; I like to know as much about and stay as long as possible in fantasy worlds—but she has a flair for a fine sentence. Listen to this wonder-

ful example of her writing:

The winter sea was cold and grey as the voices of the gulls that flew over it, but where it entered the bay before the little shrine, the water turned to a sour vinegar green. Most of the lower steps that led down from the wall of shrine to the water were also green, dark as slabs of raw emerald, for the sea covered them at hightide. When the storms came, waves would smash over the wall of the shrine, into the courtyard beyond.

Bravo, Tanith!

I would also like to commend the jacket painting by Juliet Stanwell Smith, which looks to me more like an interior artwork than a cover, but has something about it that fascinates me. The color is intriguing.

* * *

Dashiell Haldeman

If Joe Haldeman's *All My Sins Remembered* is not as good as his *The Forever War*, it is better than *Mindbridge*, although not as interesting. And if that sounds confusing, it is because evaluating any novel by Joe Haldeman always leaves me a little confused as to what I really think and feel. I'm not sure I liked *The Forever War*, although I felt it deserved the awards it got, and I would not hesitate to recommend it to everyone. I'm not even sure if I like Haldeman. But I admire him more than just about any other new writer in the field.

There is so much to admire. And all of it can be put into one word: ability.

Maybe you have to be a writer to appreciate how good Haldeman really is in the absolute command of his materials and in his craft, which he demonstrates in everything he does. It takes most writers many years of hard work just to get where he started from; and few ever get there entirely.

Yet as good as Haldeman is, none of his writings so far have been entirely satisfactory. A Haldeman story is like a brilliantly polished machine, bright and fascinating to watch in action, but still a machine, hard and cold to the touch.

Not that Haldeman is without feeling: Sentiment and emotion and ideological bias abound in his works; but they are bound themselves, straitjacketed in an austere technique that, while admirable for its succinctness, precludes full expression of anything except itself. One comes to hope for a single purple passage, a solitary melodramatic moment. But all is as tight as a drum.

All My Sins Remembered is no exception. It has the familiar elements. The conscience-struck hero forced to do evil in the name of good; the wonderful alien life forms Haldeman does better than anyone else; the atmospheric worlds; the treacherous government agency.

It is not a novel but rather a collection of three short novels linked by imaginative sections called "Redundancy Checks," which show the hero's progression from age twenty-two to forty-five, when he is ig-

nominiously relieved from duty.

Otto McGavin is a young man with the reflexes of a cat. He wants to do good—specifically to join the vastly powerful Confederation that is charged with the responsibility of defending the interests of extraterrestrial species.

Although Otto is a man who deplores violence, he quickly finds himself one of the most violent and dangerous men in the galaxy: an agent of a top-secret organization called TBII, a sort of galactic FBI.

His first assignment, and the one I liked best, is called "To Fit the Crime." Here Otto is sent to the dismal world of Bruuch to investigate the premature deaths of a strange hirsute species which loves nothing better than to die.

His second "episode," as the stories are called, is "The Only War We've Got," which so bored me I no longer remember what it was about and I just finished the book yesterday. Oh, yes, it is about Otto's attempt to stop an interplanetary war. Interminably talkative.

The third is "All My Sins Remembered"—about Otto's sojourn as the priestly head of an unholy order. He is trying to learn the secret of a beetle-like species that, it seems, moved its entire planet by some means known only to itself. As in the first episode, it is the wonderful aliens themselves that make the story entertaining. They are the sort of characters that make you want to know more about them.

I wish I could say the same of Otto McGavin. His plight is that he must be turned into a different human being for every assignment,

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so he is always only ten per cent himself and ninety per cent some other, usually disagreeable, person. And even the ten per cent that is himself is an absolute slave to the system that exists for the welfare of none other than itself.

The trouble with Otto's plight is similar to that suffered by any tv series hero. He never ever does really change from one story to the next. He is in all instances—at least to me—a normal, well-adjusted, hell-of-a-nice-guy who is never believable as a ruthless hired gun.

Nevertheless, *All My Sins Remembered* is a "must" as is everything else Haldeman has written so far. And I want to put in a good word for the cover by Paul Stinson. Like most sf covers, it seems to have one detail too many, but I could not make myself dispose of a single one of them.

Department of Interesting, if Inessential, Information

A while back I reviewed Robert Aickman's very fine collection of ghost stories called *Cold Hand in Mine*. I referred to suspected "autobiographical" elements in his work, but the back flap did not have much to offer about the man. So I did some investigation and have come up with a biographical sheet that may be of some interest.

Aickman is the grandson of a popular novelist, Richard Marsh, who wrote a supernatural novel called "*The Beetle*," of which I've heard but never read. Aickman is interested in psychic research and

figures in two works on the subject published by the Society for Psychical Research. He is part-author (with Elizabeth Howard) of a book on psychic phenomena called *We Are for the Dark*.

The remainder of this long, single-spaced, biographical sheet is awesome in its credentials. Aickman belongs to everything. He received some training as an architect; was drama and film and opera critic; director of an opera society specializing in neglected operas; chairman of a company that sponsors a ballet company; founder of the Inland Waterways Association ("advocating the better maintenance and fuller use of British rivers and canals"). In fact, this last seems to be a passion of his. He belongs to all sorts of related organizations and has written the most popular book on the subject: *Know Your Waterways*.

The remainder of his activities (founder of this, chairman of that, director of one thing, vice president of another) is staggering. Only in England!

He is editor of the *Fontana Book of Great Ghost Stories* and its eight successors. His own books include *The Late Breakfasters*, *Dark Entries*, *Sub Rosa* and *Powers of Darkness*, to mention a few.

I know at least two knowledgeable fans who disagree with my high opinion of his work, claiming that Aickman tends to write the same story over and over again, but I did not find that to be the case in *Cold Hand in Mine*. If you like a good classy ghost story, I recommend it highly ★



I'LL GET THE column to you right away, J. J. Do not worry. You can depend on Alter-Ego to come through. I'm an expert on fanzines. I've been with Geis long enough to know—Oh, please, J.J. Don't weep with gratitude like that. The column will be on your desk on Tuesday at the latest. All about how to publish a science fiction fan magazine. Yes. Yes. Of course I know how important my column is to GALAXY. Yes. Yes. Okay. Right. Goodbye.

Hmm. Well, now. I think I'd better manipulate Gets a bit for this one. Aha! I have just the technique!

Hey, Geis wake up! I've got great news for you.

Mwerzap? **Snorpp!**
"Wha . . . ? What's . . . Oh. YOU! What did you wake me up for?"

Geis, I have good news!

"You're leaving my brain to be-

devil another poor soul to near-madness? Who's the victim-to-be? President Carter? Harlan Ellison? David Rockefeller? All good, deserving men. Or will it be a woman? Is it—"

None of the above, Geis. I'm not leaving you. The news is that I'm going to begin publishing my own sf fan magazine, and I need some pointers.

"Oh. Oh? *You're* going to publish a fan magazine? I find that laughable . . . no! I find it suspicious! Are you going to compete with my *Science Fiction Review*?"

No, no, no. Just a little personal publication, nothing fancy. No need to worry, Geis. But I need to know some things about methods of production, dealing with the post office, costs, where to get outside material, how much to charge for it.

"Aha! Knowledge I've accumulated over twenty-three years of fan-pubbing you want to rip off in a few short minutes! Typical. The answer is no!"

I'll dip a tentacle down into your midbrain pleasure node and give it a five minute tickle if you'll help me.

**Gasp!* "Five minutes of non-stop orgasms? Whatdoyouwantto-know?"

Well, for starters, what's the best method of producing a fanzine?

"The best, easiest method is the most expensive. Have it printed by a local budget printing firm. Write what you want on a sheet of $8\frac{1}{2} \times 11$ white paper, and they'll run off as many copies as you want. It'll cost you about \$4 for 100 copies. Two sides printed costs about \$8 per hundred."

Ummn. That do get dear, don't it? What's the least expensive way of printing a fanzine?

"Oh . . . maybe having free use of a spirit duplicating machine—a Ditto machine. Uses carbon masters and prints purple on the paper. Other color masters are available, of course, but purple is less expensive. The masters cost about 10 cents a sheet, standard $8\frac{1}{2} \times 11$ size. A ream of paper is about \$2.75. The duplicating fluid which transfers the analine dye from the typed master to the paper is maybe \$10 a gallon and lasts a long, long time."

What if I want to use artwork in my fanzine?

"That's a whole different bag of problems, Alter. With offset you can just paste your artwork onto your copy page and that's it. No sweat. But with the Ditto process you have to draw right on the mas-

ter . . . or have your artist draw on the master. In the old days, when most fanzines were produced by spirit duplication, or mimeo, some remarkably good artwork was created by artists working with purple, black, red, green, and brown sheets of analine dye carbon. It may be a lost art now. **Sob** Weep for the Good Old Days."

Don't get mawkish and nostalgic on me, Geis! Just tell me the advantages and disadvantages of Ditto duplicating.

"It's cheap but you can only get about 150 really good, clear copies from a long-run master, and you're likely to have purple dye stains on your fingers for a long time. Those stains used to be the mark of a trufan."

You mentioned mimeo?

"Sure, mimeography was, and still is, the primary method producing fanzines. But don't buy a mimeo just to start your own fanzine. Unless you have access to a mimeo it would be cheaper to go the budget offset route. The mimeo companies are pricing themselves out of sight lately. For the price of the best mimeo made—a Gestetner 466—you can buy a tabletop AB Dick offset press. Of course the offset is more expensive to use and maintain. Now—"

How much for that Gestetner or the AB Dick offset?

"Too much for a beginning fan editor, Alter. You're looking at around \$1500. just to buy the machine. Then there are supplies . . ."

Yeah. I believe you. Unless I can use a mimeo free, I can forget buying a mimeo.

"Unless you can get one cheap from some business or church or private person who wants to unload one. In that case you'll probably face expenses for new rollers, ink feed, cleaning, adjustments, etc. Reconditioning by itself could cost several hundred bucks. I tell you, prices today"

Okay, let's say I can use somebody's in-good-condition mimeo. And I know how to type a stencil. What about artwork? How do I get that on a stencil?

"Nowdays, Alter, there are such things as electronic stencil-cutting machines. They will scan and "burn" a photo or a piece of artwork onto a rubberized stencil. They do a fine job, too. But it isn't like in the old days when a fan had to use styluses (or styli), shading plates, and skill in tracing or copying or creating on-stencil . . . cutting the wax, knowing exactly how much pressure to use without tearing the stencil and ruining hours of work. Ah, I remember one time—"

Forget it, Geis, Now is now. Hand-tooled stenciling is a thing of the past. Lost art. Tell me more about electronic stencils.

"You don't appreciate the Old Ways, Alter. You're like all these young whippersnappers nowadays who don't have no respect for—"

Terminal boredom is setting in! Electronic stencils!

"All right! You can do elaborate professional layouts. paste-up the headings and artwork on white paper, paste in the text, and you can have the whole page copied onto an electronic stencil. Or you can get different effects by making up two

stencils for copying, run one stencil in a different color ink, on the mimeo, make a color change, and run the other stencil in a different color, all on the same page, by running the paper through again, with each stencil. Many possibilities. All it needs is care and a willingness to take the extra time."

So how much does it cost to have one of these electronic stencils cut?

"Some places will do it for as little as \$2.50. Some charge up to \$6. Hell, for twelve or so hundred dollars you can buy your own electronic stencil cutting machine."

Geis, didn't you once tell me it was possible to have a lot of small pieces of art put onto an electronic stencil and then cut them from the stencil and glue them onto a regular stencil, so a fan editor could have spot illustrations on his typed stencils, without having to have the typing electronically copied, too, at great expence?

"Yes, but the technique of cutting a smaller hole in the regular stencil, gluing the segment of electronic stencil over the hole with stencil cement, doing it without wrinkles or seams or leaks . . . is too complicated to describe here. It is a skill acquired after deep thought and many curses signifying disasters."

Sounds to me, Geis, like elaborate mimeography is an expensive, time-consuming, frustrating drag.

"Correct, Alter. And only a few readers of your fanzine will appreciate it; fine mimeography looks very much like offset printing, and offset, unless you do it yourself, is nothing to take credit for."

So what should a young, eager

would-be fan editor do? Spend all his money on offset, or mess around with mimeo or spirit duplicating?

"Assuming he/she has worked up a mailing list of about 150 other fans and fan publishers, the best route is free use of a mimeo or Ditto machine. If a good piece of art is in hand, have it run off offset as a cover. Otherwise do without art. Art and layouts and all the quasi-professional appearances of advanced fan magazines should not be attempted at first."

Why not? Doesn't layout and artwork improve a fanzine?

"Sometimes. But at base a fan magazine—any magazine—lives or dies on the quality of its *writing*! A successful fan magazine can be published that has no art in it at all, ever."

"Geis! You expect me to believe—

"Yes. Some of the most expensive, professionally printed, elaborately illustrated fan magazines were total flops because the text was dull, badly written, or ill-chosen."

That leads me to the core question, then. How do I get all this fine writing I need for my fan magazine?

"You start out by writing it yourself, Alter. You're always bragging how good you are. For your first issue you make your fanzine a display for your writing, your maturity, your personality. And in that first issue you ask for contributions of art and writing from the fans you've sent copies to."

Why would they send stuff to me? Am I supposed to pay?

"No, you are not supposed to

pay until after your magazine makes a profit. 99.9999 per cent of fanzines never make a profit. Most semi-prozines don't make a profit. Some prozines don't make a profit. Fans write articles and reviews and letters to fan magazines so their efforts will be published, so they can communicate with hundreds of other fans. And an artists (even some professional artists) will send their work to fan magazines so they can see their work published, for ego-boosting, or status. If you edit and publish a highly popular fan magazine, the best fan writers and artists will want to appear in it."

But what if I'm not so hot as a fan writer? What if I have a lousy personality-on-paper? What if my editorial sense is nowhere?

"Then you will publish what is known as a crudzine, and after a few issues you will tire of the game and seek another hobby where you can be a winner."

Well, that won't happen to *me*! I'm going to publish a Hugo-winning zine and be awarded the Best Fan Writer Hugo, and build up the circulation till I have 2,000 subscriptions and send over a thousand copies to be sold in bookstores, and make my living off the magazine!

"Uh-huh. How long you think it'll take you, Alter?"

Oh . . . I figure maybe a year.

"Pardon me while I stifle my laughter. Alter, it takes *years and years* to build up the paying circulation of even the best of fanzines. Unless, of course, you have fifty-thousand dollars you can spare to advertise the mag. Or national newstand distribution. But that's virtually impossible unless you

have the zillions needed to print hundred-thousand copy issues for six months or so before first returns on sales come in. Abandon your hopes. Alter; you're thinking in dreams and professional categories. Fanzines are *not* big-money makers, if they ever do cross the line to marginal profitability. They are labors of love, and only a handful of fans, in a generation or two, are of such peculiar and distinctive character/personality/talent as to be compelled to even try to publish a Big-Time Fanzine."

Why are you so determined to rain on my parade, Geis?

"Because you are a fool and full of illusions. If you must publish a fanzine, start with a personal-zine (just you talking to other fans via print) and then, if the response is favorable, you might want to add writing by others, artwork, and accept subscriptions."

Why wouldn't I want to accept subscriptions?

"Because you are taking on an obligation when you contract with people to send them a magazine every so often for a year or two. That's what a subscription is, you know, a contract. And if you start out all bright-eyed and bushy-tailed and take in a couple hundred subs and owe five or six hundred dollars in future issues . . . and then get tired of publishing or have to quit for one reason or another . . . you'll have to pay back the subscribers . . . and chances are 99 to 1 that you've spent all that subscription money on current publishing expenses."

You mean I'd have to *pay back* all that money?

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"It would be the ethical thing to do."

"Huh! You're a party-poop, Geis."

"Just advising you to look before you leap and similar admonitions of caution. I deal in antique cliches, too."

Well, okay. So I decide to follow your advice and start small . . . a personal fan magazine, sent free to a hundred fans, for trades with their fan magazines and for letters-of-comment, what's the best way to mail it? I understand the post office is a maze of weird rules and regulations.

"That it is. For instance, the P.O. says it has five classes of mail: First, Second, Third, Fourth and Parcel Post. Actually, there are only two classes, airmail and surface. First class mail and extra-cost Sec-

ond and Parcel Post mail go fast, by plane. All the other stuff goes by train, truck and bus, and usually takes about the same amount of time.

"If you want speed, keep your fanzine small—four pages or so—under one ounce in weight per copy, and mail in First Class. If you want more pages per issue, third class costs (as of November, 1977) 14¢ for 2 ounces, 28¢ for up to four ounces. After that you're better off having at least 28 printed pages, calling your publication a book, and mailing at special Fourth Class Book rates: 30¢ for the first pound. The larger, thicker fan magazine should be mailed in an envelope. A small, ten-page zine can be folded and stapled shut and mailed "naked" provided you have left space on the outer page for your return address and so on, as on the face of an envelope."

What about Second Class, Geis? I've heard magazines get a big break in mailing costs with second class.

"Yes, but. You have to have at least 200 subscribers, you have to have your fanzine printed by offset or letterpress, and you have to make application to mail at second class, and you have to pay a big fee. Last I heard it was \$30 minimum. And, you have to pre-sort and bundle and sack your fanzines by zipcode in a special way, and make out mailing forms each issue . . . It gets complicated. You pay a price for the privilege of saving postage money. Same way with a Third Class Bulk Mailing Permit—all kinds of forms and the same complicated pre-sorting and bundling requirements.

A small-circulation fanzine isn't worth the hassle. Stick with First Class or single-piece Third Class or single-piece Book Rate."

Okay, thanks, Geis. You've been very helpful. One more thing, though. How much should I charge for my zine?

"Alter . . . *Sigh* Assuming your first few issues are good and you get egoboo and are still willing to continue, if you *must* sell it to a few fans who want to receive it, you might follow the 4 cents per printed page formula: thus eight pages of text/art mailed first class is fairly worth about 35 cents or three issues for \$1. A 30-40 page zine is usually priced at \$1 to \$1.25. More pages, more price. Once you get deeply into fandom and learn the ropes of publishing you can make your own estimate of how-much. Are you satisfied?"

Ummm, yea. Thanks. See you around the medula.

"Hey! How about the payoff? You primised five minutes of exquisite pleasure."

Oh, yes. Okay . . . let me worm my index tentacle down through the midbrain . . . There! How's that feel?

"Youp! Yee! Oow! Gnerg! Stop! That's—Yowl!—that's my pain center!"

It is? You've got a very strange brain, Geis. Nothing is ever in the right place. Is *this* the right spot?

"No! I taste salt! Ecch!"

How about *this*?

"I hear a jet taking off in the next room!"

What about *this*?

"I see polka dots in orange all over the place!"

"Hmmp. And this?

"Ahhhhhhhh . . . yesss . . . whoooooeee. Don't stop! Oh, Alter, I love you! Ummmmmm . . . AHHH! Don't stop!"

You humans are disgusting. But so easily used. Amusing what happens to Geis's body when I twitch my tentacles a bit. Oh, hey, I forgot to ask about good fanzine titles. I'll just ease off the pleasure button . . . Geis, what should I call my zine?

"Why did you stop? You promised—"

I need a good name for my fanzine.

"How about *The Alien Rat Fink*?"

No, no . . . I know! I'll call it *His Master Speaks*.

"Sure, okay, anything you want. Now please—"

Or would *Star Journal* be better?

"Anything! Alter, you promised—"

Alien Times? The Life & Times of Alter-Ego? Alien Crusade? A-Lee-En Kenobi?

Alter, for the love of Ghod . . . You promised—Where are you going? Put your tentacle back! You can't leave me hanging like this!"

I didn't realize how important a fanzine name can be, Geis. It has to be just right. I'll have to think on this a long time.

"*Damn you, Alter!*"

Yeah . . . I like that. Has a great sound to it. *Damn You, Alter* it will be! Thanks, Geis. Just for that you get an extra three minutes. This the right spot?

"Ahhhhh . . . uh! uh! Uh! Oh, don't stoppppp! Ahhhh . . ." ★

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Who's Minding The Store?

"He knows nothing and thinks he knows everything. That points clearly to a political career."

—Undershaft, in *Major Barbara*

PRESIDENT CARTER comes in for some hard knocks from Jerry Pournelle this month, anent the "energy program." And perhaps Jerry will come in for some hard knocks from Carter partisans and/or anti-nuclear people in future Directions columns.

But this isn't an editorial about hard knocks, deserved or otherwise. Rather it is about how much, indeed, our future is being shaped by people who know nothing and think they know everything. And they aren't all politicians, by any means.

The energy crisis? In a recent poll, at least half the people refused to believe this country imports oil at all. While reflex liberals oppose both nuclear power and such alternatives as coal and solar power satellites, reflex conservatives deny there's any crisis to begin with—

we've never run out of oil before, so we never will and the "shortage" is manufactured by politicians.

It's easy to be cynical about politicians, and we are all doubtless justified in suspecting their motives. A lot of them aren't very bright or very honest to begin with; but even when they are, they aren't likely to stay that way for long in an atmosphere of back-room politics and lobbying pressures.

But is this really surprising? Ours is supposedly a "democratic" society, but most people have so little interest in the political process they don't know who their congressmen are. Maybe it's just as well; with high schools graduating illiterates by the millions, how could they keep well enough informed to take a meaningful part in the process

anyway?

Ignorance appears to be rampant even among the "educated"—not long ago, a *journalism* professor polled his class, and some of the students thought David Berkowitz was a Supreme Court justice. Well, maybe that will give the Son of Sam's lawyers an idea where to seek a change of venue, at least.

GALAXY readers are a cut above that level—true. But don't be so smug. How much do you really know about the issues involved in the debate over recombinant DNA research, or nuclear power plants, or the B-1 bomber vs. the cruise missile, or even rival plans for recycling garbage into fuel, fertilizer or building materials? Yet these are all issues that affect your lives—some of them, at least, are life-and-death matters.

Let's say you *do* keep informed, and can make intelligent arguments about these and other issues. When's the last time you actually *did* so in a way that mattered? The world is full of voices, and many of them are making themselves heard. Is yours one of them?

We haven't heard it. We've heard reactionaries like Phyllis Schlafly and Anita Bryant denouncing the ERA and gay rights. We've heard the oh-so-intellectual terrorists, who murder in the name of the People they pretend to represent ("Le peuple, c'est moi," seems to be the radical aristocrats' variation on Louis XIV). We've heard the organized lobbies of business, labor, farmers, etc.

They're making themselves heard, all right—the crazies, idiots and vested interests of left, right

and center. The last time science fiction fans made themselves heard was in a campaign to have the first space shuttle christened the *Enterprise*. The last time before that, it was in a campaign to save *Star Trek*. The last time before that. . . .

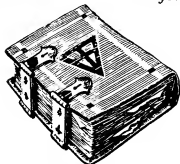
Well, there *were* those ads opposing groups of writers took out in sf magazines in 1968 for and against the Vietnam War. Inspiring, but hardly original. Some of the same writers published Vietnam War stories thinly disguised as science fiction—the effect of which was no doubt negligible, for good or ill.

Those who try to change things-as-they-are receive a lot of discouragement. "Society" is pretty big, and individuals don't seem to count for much; even *groups* of individuals like us don't seem to count for much. Individuals don't make history, we have been told by the likes of Lenin—who was able to bring off the Bolshevik Revolution only by disproving his own theory.

History is in a state of flux just now; instability is rampant in almost every social and political institution. We are in precisely the kind of time where our words and actions *can* accomplish something. It is during times of stability and unquestioned tradition that individuals and small groups of dissidents don't count. In times like ours, those who discourage such efforts may very well be the ones who want to keep the game of playing with the future to themselves.

Things aren't just happening out there in the nation and the world—people are making them happen. And if we don't like the kind of things they are making happen, then

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There are some things that can not be generally told—*things you ought to know*. Great truths are dangerous to some—but factors for *personal power* and *accomplishment* in the hands of those who understand them. Behind the tales of the miracles and mysteries of the ancients, lie centuries of their secret probing into nature's laws—their amazing discoveries of *the hidden processes of man's mind*, and *the mastery of life's problems*.

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we'd better get busy and try to make *better* things happen.

But we have to think seriously and act seriously. If we don't, we aren't any better than the plastic hippies who run off to start rural communes without (like the Amish or Mennonites) bothering to learn anything about farming or the amount of labor involved in rejecting expensive and/or sinful technology.

How many of you out there have the skills to not only lobby for but actually *work* on one of Gerard O'Neill's space colonies, for instance? Because if there's anything you can count on, it's that people with a lot of enthusiasm and no skills won't be any more use at L-5 than at one of those rural communes. Nothing is going to be accomplished by, and nobody's going to be impressed by a college dropout in a *Star Wars* T-shirt.

In Jerry's previous column, he reported debating people who think space industries are "rapped out" because none of those who *talk* about space so much would actually *go* there. That attitude may be typical. Too many people think space and other such frontiers are a lot of mickey-mouse, just like science fiction is a lot of mickey-mouse.

We know better, or ought to know better. We know how serious humanity's problems are—and we also know some approaches to solutions that can *work*, if only they are taken seriously and pursued seriously. But nobody's going to take *us* seriously unless we take ourselves seriously.

—john j. pierce

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DIRECTIONS

Dear Editor:

I wish to take issue with both MM. Jay Kay Klein and Jeff Rovin. They both seem to be under the misapprehension that *Star Wars* is "science fiction." It is not. What it really is, is fantasy expressed in sf terms. Moreover, as even a casual once-over of the plot *Should* make clear, it is an heir in direct line of such classics of Heroic Fantasy as *Parzival* and *The Lord of the Rings*.

As a matter of fact, there are strong parallels between *Star Wars* and *Parzival* (the von Eschenback original, not the Wagner opera). Both works feature as hero a naive youth reared in a remote and desolate place in utter ignorance of his true heritage by a well-meaning relative who does not want him to share his father's fate (Parzival's father, a Knight, was killed in battle before Parzival's birth). In spite of the relative's efforts, the hero fares forth into the world (or universe) in search of, and soon finds, glorious adventure and great danger. He is marked out for a high and noble destiny; in Parzival's case, to find the Holy Grail (which was not yet the purely Christian symbol that it later became) and to restore fertility to the Waste Land; while Luke Skywalker is being none too subtly directed toward doing the same thing on a larger scale. With *Star Wars*, we have barely reached the end of Part One (or possibly Two); a good place to

pause, but the end of the story is not in sight.

There are, in addition, parallels with *The Lord of the Rings*: the story is part of the eternal conflict of Good vs. Evil; the Evil side is powerful and well-organized whereas the Good is represented by a handful of oddly-assorted characters; the hero's "impossible mission" is to destroy major menace to the cause of Good; and in this task he has the help of a Wise Old Man. (Tolkienites who have seen *Star Wars*, please re-read the Moria sequence from the Watcher in the Water to the Bridge of Khazad-Dun.)

Incidentally, I would like to quibble with M. Klein about the characterizations. They aren't, and are not intended to be, the People Next Door. Neither are they "stock cardboard characters." They are Archetypes of an unusual degree of purity (that is, freedom from confusing "realistic" characteristics): the Innocent Fool, the Wise Old Man, the Anima, the Shadow (in fact, several Shadows of more than one person), the Helpful Animal and so on. Anyone with access to a good collection of fairy tales or to Jung's essays on Psyche and Symbol—or to a Tarot deck—will recognize most if not all of them.

The spaceships, blasters *etc.* that give *Star Wars* its illusory appearance of sf are the symbols and conventions of our time, as horses and swords were of the older Heroic Fantasies. Lucas has done a brilliant job, thus far, of presenting the old essences under new forms; let us hope he can keep it up!

Sincerely yours,

Bettina Helms

Box 178
Sherman, Ct 06784

Well, I knew Star Wars fans were young in heart—but Jung in heart too?
—j.j.p.

Gentlemen:

After having read the reviews of *Star Wars* you printed, I decided I had to write.

Both "authors" assumed that *Star Wars* takes place in our future. If they had paid attention when they saw it, they would know it takes place "a long time ago in a galaxy far, far away."

To Jim Baen:

When the Star Destroyer took the princess' ship aboard, they had no fear of it self-destructing. First of all, the cruiser is far too large to be badly damaged by a self-destruct. Considering that the inside of the port, like the inside of the garbage masher, would have magnetic screens, and the port being open to space, the force of the explosion would be channeled away into space. Secondly, the princess had, at all costs, to get the plans of the Death Star to the Rebel Alliance. Self-destruct would have made this impossible.

As to the X and Y-wing fighters not being caught in the tractor beam, they were too small, too fast and too maneuverable for the Death Star's crews to touch. Both tractor beam and turbo-lasers were for use against larger ships. Also, one-man fighters were not considered to be a threat, which is why the Rebels used them.

To Jay Kay Klein:

Parsecs are a measure of distance, not time. A parsec is 3.2 light years (*Jay already knows this; that was his point—ed.*). Also, it was 12 parsecs, not 15.

As to the statement about Luke endangering his mission to rescue the princess being childish, I have one

word: ridiculous. Luke's driving force was to leave the dull life of Tatooine and fight the Empire in any way, shape or form. The robots provided that chance. As for rescuing the princess, it was only logical. First, he was attracted to her. Second, she was the head of the Rebel Alliance after the destruction of Alderaan. Third, to leave her would have been a second blow to Rebel morale.

There was no "instantaneous conversion to fighter pilot." In the Rebel briefing, Luke said he "used to bullseye womp rats" back home in his T-16. The T-16 is a skyhopper. Also, he was going to submit his application to the (pilots') Academy. He was a pilot, a bush pilot. Womp rats were rodent-like animals.

To Jeff Rovin:

To answer the few pages that you wrote would take more pages than this magazine has for a while issue. But I'll try in as little space as possible.

Star Wars is far more realistic than *Forbidden Planet* could ever hope to be.

It is C-3PO, not C-P30 (*probably a typo at this end—ed.*)

Who or what said the Jedis were telekinetic?

The prologue was quite necessary to set the scene.

There was no sudden change in Han's temperament. This was first seen in a conversation with Luke after escaping from the Death Star. Also, Chewbacca's behavior when they were loading their payment on board ship hinted at Han showing up later to help.

The alien make-up was not unconvincing. The alien with eyes on the T-shaped end of a trunk-like head proved that. Especially when the eyes *blinked*.

Banthas don't necessarily show a dis-

regard for biology. Look at the shaggy-maned male lion of the hot African veldt, and the heavily-robed nomads of the Sahara.

Several garbage mashers would fit into an auditorium. They would be necessary if the Death Star could not reorganize matter "on a nuclear level." There was no evidence in the movie that it could.

The Galactic Empire ruled with oppressive force and fear, like most military dictatorships. The "brusque joyless manner of Death Star personnel" and so-called "surrogate Nazis" is rather obvious viewed in this light.

I've been reading science fiction all my life and I, unfortunately, also remember all the stupidities (like the continually recurring same piece of landscape in *Flash Gordon*) of old sf movies. *Star Wars* shows thought and originality.

Skip Watson

RD 6

Greenshurg, Pa., 15601

Now if only somebody would go to this much trouble to analyze the stories in GALAXY!
—j.j.p.

Dear Editor:

After turning a thousand shades of crimson, banging my fist on the desk, walking around my chair fifty times, patting my wookie poster and then sitting down to let the strains of the *Star Wars* Theme (Disco Version) soothe my shattered nerves, I tried to come to grips with how a seemingly rational and literate individual like Jeff Rovin could say such terrible things about our newest National Shrine.

As I write this, two students pass my office. The one clutching his *Star Wars* notebook and his *Star Wars* paperback to his *Star Wars* T-shirt with his star

worn expression is explaining the tremendous theological statement inherent in the substructure of the cinematic experience they had just shared for the fifteenth time. The other says as they pass: "Then if Luke is actually Christ, then that makes Obi-Wan Kenobi"

It strikes me like a laserblast. Both Rovin and these students share a common delusion—they see not what is there but what they want to see there. The glassy-eyed zealots love *Star Wars* because they see it as some kind of life-changing mystical experience with deep religious overtones. Jeff Rovin dislikes *Star Wars* because it is not the picture he wanted to be and also because he encountered some post-Wizardian Nazi hang-up that obscured his vision. In both cases the individuals reacted so strongly on a personal level that they lost all aesthetic distance from the work.

Rovin's chief fault is that he is using the wrong critical tool to conduct his examination. He is condemning *Star Wars* because it is not a *film* when, in actuality, its sole intent was to be an extremely entertaining *movie*. Which it most certainly is. He doesn't realize that a viewer consciously brings a different set of expectations to each type of cinematic event-flicks, movies and films.

The other day I mentioned to my class that *Network* was playing at the University Theatre. One student immediately blurted: "I hated that movie!" "Ah ha!" says I. "That's because it's not a movie, it's a film." For the next ten minutes I took off on a tirade, explaining why films by such directors as Bergman, Kubrick, Truffaut and Lumet demand more active participation by the viewer and more apprecia-

tion of the total experience and pervading expression of the director. I asked the student to see it again and then tell me what he thought about it in light of this new information. He did. He still hated it. But this time he knew why he felt as he did. He had been in the mood for a little light entertainment and his initial negative reaction to the film clouded his subsequent viewing of it. We have all experienced this feeling of being turned off by something we see yet not being able to precisely express why. I feel this way about *Annie Hall*. In a reverse way, Rovin will never be able to appreciate *Star Wars* for what it is.

Reviewers review movies seen in a theatre. Critics critique films seen in a cinema. You can't mix the two without getting an upset stomach. Even though Mr. Rovin bemoans the success of clichés, the proof is in the pudding. *Star Wars* will soon become the all-time box office giant because the majority of viewers are able to appreciate an unpretentious movie for what it is.

William DeArmond
Communication & Theatre Dept.
Western Kentucky University
Bowling Green, Ky. 42101

Well, that's progress for you! Took 40 years to get college professors talking about written science fiction, but only a few months for one to sound forth on an sf movie. —j.j.p.

Dear Editor:

I feel compelled to comment on Mr. Rovin's negative review of *Star Wars*. I have met a few other strange creatures who didn't like the movie, and I can only believe that they are simply missing the point of it, as I almost did.

When I saw the first ads for *Star Wars*, I assumed it was an ultra-schlocky film with science fiction pretensions, something that would make *Soylent Green* look profound and artistic. My fiancé insisted I would like it, so I gritted my teeth and prepared to tolerate it. Within ten minutes, I realised my mistake. *Star Wars* is *not* science fiction, and should not be judged as such. Perhaps the best category for it is space fantasy.

I will grant that there were some technical inconsistencies, and cardboard characterisations. I also feel someone did a terrible injustice to Princess Leia, really a rather pretty girl, when they gave her that horrible hairstyle. The special effects impressed me with their detail and realism, and somehow, I missed the flaws Mr. Rovin objects to, I thought the aliens' make-up was superb.

But none of that has to do with the point of the movie. All right, so the movie is *The Wizard of Oz*, *The Three Musketeers*, *Zorro* and a bunch of other legends, set in outer space. What's wrong with that? It is the everlasting adventure/romance that never dies. The Hero is handsome, brave, a little innocent, a little mischievous. The Heroine is feminine and spunky. The Old Man is very old and very wise and noble. The Villain is thoroughly evil.

It is the *mood* of *Star Wars* that is its magic. It speaks of growing up, of the humour of the human condition, and of the beauty and value of life. It shows people *acting* instead of sitting and whining, people trying against impossible odds, and succeeding. It is straightforward, and uncluttered by sophistication. It's overall tone is of enjoyment and *hope*.

Arguing about technical flaws in "Star Wars" is like arguing that Shake-

speare stole from Bacon. Who cares, if the final effect is good? I've had enough of movies that leave me feeling exhausted, frustrated, angry, betrayed, and only briefly safe from the inevitable doom of the modern world. When I walked out of "Star Wars", I felt *good*, clear down to my toenails.

The current drive for artistic "realism" is too often laced with cynicism and snobbery. In their efforts to be urbane, "modern" people too often condescendingly brush off simple pleasure and idealism as naive and immature. But to be mature means not having to constantly prove it, and the human psyche needs those innocent, starry-eyed feelings as well as "realism" to be balanced and healthy.

If you want to pick "star Wars" apart, go ahead. I feel sorry for you. I'm going to see it again tonight, and I'm going to have a terrific time!

May the Force be with you.

Sincerely,
Shari Prange

153 Maple St., Apt. 103
Vandalia, Ohio, 45377

Dear Mr. Rovin:

I am 100 percent behind you in the CON section of STAR WARS—PRO AND CON in the October edition of GALAXY. Harlan Ellison, in a recent interview, called *Star Wars* "mindless." If this trash is the best that motion picture producers can come up with (it *isn't*, but that's beside the point), then science fiction in the cinema must be going downhill.

How can anybody compare this sickening, trashy motion picture to *2001: A Space Odyssey*? I, too, am revolted by people who call *Star Wars* the greatest science fiction film ever made. How

can anyone call himself an sf fan if he was not disgusted by *Star Wars*? I hope it will be a long time before we see any science fiction film as stupid as *Star Wars*.

Ken Majewski

1763 13th Avenue North
Lake Worth, Fla. 33460

Well, I hope you've brightened Jeff's day a little, after all those other letters. Maybe we can get a controversy going about Close Encounters now. —j.j.p.

Dear Jim:

Just finished reading your rectenna/ion drive proposal and Jerry Pournelle's response.

My comment is that sodomy can be habit-forming.

Leaving aside anti-miscegenistic prejudices (after all, mules . . .), I would worry only about radiation pressure from the microwaves. Those energy-carrying photons have some momentum, and your ion-drives will be absorbing a lot of photons. That is my only reservation.

On rectennae: J.P. worries about current load-carrying ability and conductor mass. Superconductors would be a way out, and organic room-temperature superconductors exist (something like one very long communal conjugate bond), but I don't know what the current-carrying capacities of organic superconductors are.

You have done a superb job, Jim, editing GALAXY. I will miss your touch. My best wishes. I anticipate your work (at Ace) with pleasure (I won't wish you "luck" because I believe that *you* make your own—and you seem to make lots of the good kind.).

Ed Hume

6337 Southwood, Apt. 2E
Clayton, Mo., 63105

Ah, a non-Star Wars letter—maybe Jerry can develop this idea further in another column. I'm so far behind I hadn't even realized there were organic superconductors available. —j.j.p.

Dear Mr. Baen,

Your August Editorial really hit home. Hopefully it will stimulate others as it has stimulated me. I've been meaning to write a good SF story for years, now. One reason I've never done so (besides procrastination and sloth) is because I can never make up my mind about how much to leave out or include in the background. The more I think about the ramifications of events and ideas completely unrelated to the elements of the story at hand, the less inclined I am to actually finish the damned thing (usually I rewrite it to death as new—and better—ideas pop into my head).

The obvious solution to this problem is to do what Heinlein and Asimov did: sit down and create, with as much detail as possible, a complete and comprehensive "future history" which carries the cause and effect of advancing technology, plausible politics, and good ol' human nature (modified artificially, sooner or later) as far into the future as you can. I did this recently, with surprising results.

I wanted to write a series of stories about the colonization of space, out to and including generation-type starships, based on what I considered the "most probable" future. I started with the Shuttle, the Third Industrial Revolution, and . . . and ran up against my first big problem. It really *will* be a revolution, and the society our grandchildren take for granted will be as alien to us as ours would be to Julius Caesar. Brain/computer interfacing; literally unlimited

energy and natural resources; and by the end of the 21st Century I ran out of steam: I had let technology advance to the point where almost everything we could learn about the Universe had been learned and the resulting goods and services became "indistinguishable from magic." Even if we do not make a breakthrough that results in some sort of FTL Drive, we will have intelligent robots to do our work for us and total conversion of matter/energy to provide us all with an incredibly high standard of living, not to mention some form of immortality, artificial telepathy, an end to the root causes of crime and war and poverty and conflict and mental illness and . . . Hm-m-m . . . this is what could conceivably happen by the end of the next century! What are our descendants of ten thousand years from now going to be doing to avert boredom?

It gets worse. The story I write today will be obsolete before it is published because some scientist made a new discovery out on the frontier of knowledge. I'm afraid to write a story set on the moons of Saturn because the Voyager probes will certainly change our concepts of what the Saturn system looks like . . . Worse still, each story has a way of writing itself, with results that do not fit neatly into the preconceived future history. Asimov had to re-read each earlier story when he added a new episode to his Foundation future, and the inevitable contradictions still crept in. The logical consequence is to avoid trying to work out a comprehensive future history for an interrelated set of stories, like Heinlein's. The writer is thus faced with the prospect of creating a new future history, based on the latest technology and science, for each individual story! I would gladly do this, for the sake of realism if nothing else, but

would spend so much time reading the latest technical journals and creating believable future histories that I would never have time to actually write a story. And that is why I am not a Big Name Writer. And that is part of the reason, I suspect, why most of the people who read your magazine are not writers either.

But, I'm working out a solution to these problems. My first story will be set in the very near future. Each story thereafter will be set in the future that will logically result from each previous story. I hope to be writing stories set in the year 2000 well before I retire in the year 2012 . . .

Yours for a better future,

Robert G. Lovell, jr.

10908 W. 65th. Terr.

Shawnee, Kansas 66203

Dear Editor,

I am writing in response to Mr. Jakowski's letter published in your August, 1977 issue. He is most accurate in his documentation of God's greatest commandments. However, he forgets that God said, "To break one of my commandments is to break them all." Ergo, each one depends on the other. It must be realized that we must follow *Genesis 1:28* before we can follow *Matthew 22:36-40*, and *Mark 12:28-31*. The reasoning behind this is evident; however, for those of you who do not see the point—If man does not multiply the species will die and there will be no one left to worship, there will be no more transactions between men.

As long as I'm on the subject I think I'll take time out to explain the reason for the "Golden Rule". In the beginning there was God, he was all. Therefore, it is logical that anything formed must consist of *his* substance. This is in

accordance with the theory that matter can be converted to energy and vice versa. (without the destruction of either forms) Thus, we are all, each and every one of us, components of the same being, the same substance, God. It makes sense, then, that we should treat each other as we would like to be treated. We are all bonded together, all part of the same being, and any action that harms another also harms us, in one way or another.

And since God is all, all is God, it only makes sense that he be omnibenevolent, omniscient, and omnipotent. It's not that difficult a problem. Hear that, Mr. Heinlein? Perhaps you should tell Lazarus Long to call off his bets.

Mr. Baen, I salute you for allowing Biblical debates in your magazine. It is something long overdue in Science Fiction, for there is no other book with such a close connection to science and man's behavior. Thank you.

Perry Willis

7139 Grand Valley

San Antonio, Texas-78242

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